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SHARP 21HF2-SS SERVICE MANUAL

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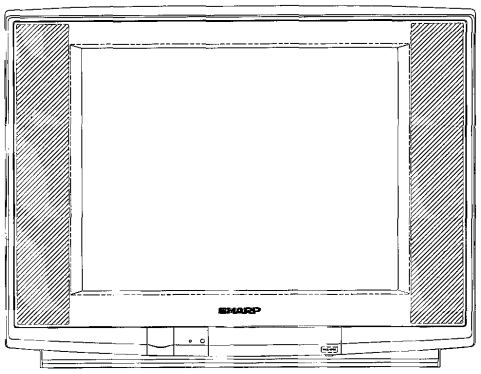
SHARP SERVICE MANUAL

No. S15D621HF2-SS



COLOUR TELEVISION
Chassis No. GA-2

MODEL 21HF2-SS

In the interests of user-safety (Required by safety regulations in some countries) the set should be restored to its original condition and only parts identical to those specified should be used.

FEATURES

- MUlti 18 Systems
- Full Auto Channel Preset and Auto Channel Skip
- 100 CH Program Memory
- CATV (Hyper Band) Ready
  <Used Frequency Synthesizer Tuner>
- Black Stretch Circuit
- ON Timer / OFF Timer / Reminder
- Blue Back Noise Mute
- Front AV IN & Rear AV IN/OUT Terminals
- Front Headphone Jack
- NTSC Colour Comb (AV Only)
- High Contrast Picture
- Hotel Mode
- White Temperature Select
- English/Chinese/French/Malay/Arabic 5 Languages OSD

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Parts Guide

WARNING

The chassis in this receiver is partially hot. Use an isolation transformer between the line cord plug and power receptacle, when servicing this chassis. To prevent electric shock, do not remove cover. No user-serviceable parts inside. Refer servicing to qualified service personnel.

SHARP CORPORATION

CHAPTER 1. SPECIFICATIONS

[1] SPECIFICATIONS

Convergence	Self Convergence System
Focus	UNI-BI Focusing
Sweep Deflection	Magnetic
Intermediate Frequencies	
Picture IF Carrier	38.9MHz
Sound IF Carrier Frequency	
6.5MHz	32.4MHz
6.0MHz	32.9MHz
5.5MHz	33.4MHz
Colour Sub-Carrier Frequency	34.47MHz
Power Input	110 ~ 240V AC 50/60 Hz
Power Consumption	95W
Audio Power Output Rating	2.5W(rms)X2
Speaker	
Size	12 x 6 cm Elliptic (2pcs)
Voice Coil Impedance	16 ohms at 400 Hz
Aerial Input Impedance	
VHF/UHF	75 ohms Unbalanced
Receiving System	PAL I, B/G, D/K & SECAM B/G, D/K, -K1
Receiving Channel	
VHF-Channels	E2(48.25MHz) thru E12(224.25MHz) C1(49.75 MHz) thru C12(216.25 MHz) S1(105.25 MHz) thru S41(463.25 MHz)
UHF-Channels	E21(471.25MHz) thru E69(855.25MHz) C13(471.25 MHz) thru C57(863.25 MHz)
Dimensions	Width: 618 mm Height: 471 mm Depth: 485 mm Weight(approx): 25.5 kg
Cabinet material	All Plastics

Specifications are subject to change without prior notice.

CHAPTER 2. IMPORTANT SERVICE NOTES

[1] IMPORTANT SERVICE NOTES

Maintenance and repair of this receiver should be done by qualified service personnel only.

1. SERVICE OF HIGH VOLTAGE SYSTEM AND PICTURE TUBE

When servicing the high voltage system, remove static charge from it by Connecting a 10K ohm Resistor in series with an insulated wire(such as a test probe) between picture tube dag and 2nd anode lead. (AC line cord should be disconnected from AC outlet.)

1. Picture tube in this receiver employs integral implosion protection.
2. Replace with tube of the same type number for continued safety.
3. Do not lift picture tube by the neck.
4. Handle the picture tube only when wearing shatterproof goggles and after discharging the high voltage completely.

2. X-RAY

This receiver is designed so that any X-Ray radiation is kept to an absolute Minimum. Since certain malfunctions or servicing may produce potentially hazardous radiation with prolonged exposure at close range, the following precautions should be observed:.

1. When repairing the circuit, be sure not to increase the high voltage to more than 30.0kV (at beam 0 μA) for the set.
2. To keep the set in a normal operation , be sure to make it function on 27.0kV ± 1.0kV (at beam 1,000 μA) in the case of the set. The set has been factory - Adjusted to the above-mentioned high voltage.

   *If there is a possibility that the high voltage fluctuates as a result of the repairs, never forget to check for such high voltage after the work.
3. Do not substitute a picture tube with unauthorized types and/or brands which may cause excess X-ray radiation.

3. BEFORE RETURNING THE RECEIVER

Before returning the receiver to the user, perform the following safety Checks..

1. Inspect all lead dress to make certain that leads are not pinched or that hardware is not lodged between the chassis and other metal parts in the receiver.
2. Inspect all protective devices such as non-metallic control knobs, insulating fishpapers, cabinet backs, adjustment and compartment covers or shields, isolation resistor- capacity networks, mechanical insulators etc.

CHAPTER 3. ADJUSTMENT PRECAUTIONS

[1] ADJUSTMENT PRECAUTIONS

This model's setting are adjusted in two different ways: through the I2C bus control and in the conventional analog manner. The adjustments via the I2C bus control include preset-only items and variable data.

CAUTION: MAKE SURE TV SET IN "NORMAL CONDITION" BEFORE SWITCH TO SERVICE MODE FOR ADJUSTMENT.

1. Setting the service mode by the microprocessor.
   i) Short JA 304 & JA 307 , then tv set will switch to the SERVICE mode position, and the microprocessor is in input mode. (Adjustment through the I2C bus control).
   ii) Press the MENU key on the remote controller to get ready to select the mode (Adjustment mode, Setting mode, Check mode and Option mode) one by one.
   iii) Press the CH DOWN / UP key on the remote controller to select the item in Adjustment mode, Setting mode or Option mode.
   iv) Using the VOLUME UP/ DOWN key on the remote controller, the data can be modified. Please wait approximately 200 msec for data storage in EEPROM before select to another mode.
   v) In Check mode the data cannot be changed.
   vi) Disable the short of JA 304 & JA 307, it will switch to the NORMAL mode position, and the microprocessor is out of the SERVICE mode.
2. Factory Presetting.
   i) Short JA 304 & JA 307, then turn ON the main power and release the short of JA 304 & JA 307 after raster appeared on the screen. Initial values are automatically preset, only when a new EEPROM is used (Judge with the first 4 bytes).
   ii) The initial data are preset as listed in page 4-2 to 7-1.
   iii) Make sure the data need modification or not (Initial data).

NOTE: Once the chassis has been assembled together and ready to be POWER ON for the FIRST TIME, make sure to short JA304 & JA307 to switch to the service mode position first and then turn on the main power switch (See 2–i) above).

Precaution: If haven't done this initialization, it may possibly generate excessive Beam current.

3. For reference please check with memory map.

1. ADJUSTMENT ITEM

***Below are the adjustment items that should be done, PLS FOLLOW THE PROCEDURE. Otherwise some adjustment items will not be accurate.

NO***	ADJUSTMENT ITEM	REVISION
1	BUS SET UP	
2	OPTION SET UP	
3	H-VCO	
4	VIF-VCO	
5	S-TRAP fo	
6	RF-AGC	
7	PURITY ADJ	
8	CONVERGENCE ADJ	
9	FOCUS ADJ	
10	V-SHIFT (50 Hz)	
11	H-SHIFT (50 Hz)	
12	V-SIZE (50 Hz)	
13	SCREEN	
14	WHITE BALANCE	
15	SUB-BRIGHTNESS	
16	SUB-CONTRAST	
17	SUB-TINT	
18	SUB-COLOUR	
19	SECAM-OFFSET	
20	BEAM CURRENT CHECK	
21	BEAM PROTECTOR CHECK	
22	HV PROTECTOR CHECK	
23	OTHER PROTECTOR CHECK	
24	AV OUT CHECK	
25	AV IN CHECK	
26	CONTRAST CONTROL CHECK	
27	COLOUR CONTROL CHECK	
28	BRIGHTNESS CONTROL CHECK	
29	TINT CONTROL CHECK	
30	SHARPNESS CONTROL CHECK	
31	CH DISPLAY COLOUR CHECK	
32	NORMAL DISPLAY CHECK	
33	WHITE TEMP CONTROL CHECK	
34	COLOUR SYSTEM CHECK	
35	SOUND SYSTEM CHECK	
36	NOISE MUTE CHECK	
37	OSD LANGUAGE QUANTITY CHECK	
38	HEAD PHONE CHECK	
39	SHOCK TEST CHECKING	
40	ROM-CORRECTION CHECKING	

2. USER DATA IN SERVICE MODE

1. * While SERVICE mode ON, EEPROM DATA will switch to the service dataAlso, once SERVICE mode OFF, EEPROM will switch back to previous USER DATA.
2. * In the service mode, the user data establish as below,

	USER DATA
CONTRAST	MAX (60)
COLOUR	CENT (0)
BRIGHTNESS	CENT (0)
TINT	CENT (0)
SHARPNESS	CENT (0)
WHITE TEMP	STANDARD
S-VOLUME	MIN
BLUE BACK	OFF
C SYSTEM	AUTO
S SYSTEM	*1

*1: For each CH, data is same as before switch to Service Mode.

The flow of Mode list as following,

* Direct Key-in Mode for Service Items in Service Mode

RC CODE (HEX)	R/C KEY NAME	SERVICE-ITEM
80	POS 1	R-C UP (IN SERVICE MODE V00)
40	POS 2	G-C UP (IN SERVICE MODE V00)
C0	POS 3	B-C UP (IN SERVICE MODE V00)
20	POS 4	R-C DOWN (IN SERVICE MODE V00)
A0	POS 5	G-C DOWN (IN SERVICE MODE V00)
60	POS 6	B-C DOWN (IN SERVICE MODE V00)
E0	POS 7	R-D UP (IN SERVICE MODE V00)
10	POS 8	B-D UP (IN SERVICE MODE V00)
50	POS 9	B-D DOWN (IN SERVICE MODE V00)
E4	FLASHBACK	R-D DOWN (IN SERVICE MODE V00)
E4	FLASHBACK	Y-MUTE (BESIDES OF SERVICE MODE V00)
75	WHITE TEMP UP	RF-AGC (V01)
F5	WHITE TEMP DOWN	VIF-VC0 (V02)
C2	TUNE DOWN	H-VCO (V03)
8D	SHARPNESS DOWN	SUB-CON (V04)
D6	BALANCE LEFT	SUB-COL (V05)
0D	SHARPNESS UP	SUB-BRIGHT (V06)
36	BALANCE RIGHT	SUB-TINT(V07)
46	TREBLE UP	SUB-SHP (V08)
C6	TREBLE DOWN	SUB-COL-YUV (V09)
26	BASS UP	SUB-TINT-YUV (V10)
24	COLOUR UP	V-SIZE (V11), V-SIZE60 (V17)
54	BRIGHTNESS DOWN	V-SHIFT (V12), V-SHIFT60 (V18)
74	TINT DOWN	H-SHIFT (V13), H-SHIFT60 (V19)
66	SURROUND UP	SCM-BR (V14)
E6	SURROUND DOWN	SCM-BB (V15)
C4	CONTRAST DOWN	SUB-VOL (V16)
4C	PICTURE	S-TRAP-BG (V20)
CC	HOLD	S-TRAP-I (V21)
2C	TEXT	S-TRAP-DK (V22)
AC	CANCEL	S-TRAP-M (V23)
EC	SIZE	S-TRAP-574 (V24)
C1		AUTO ADJ FOR V01, V02, V03, V20, V21, V22, V23,V24
CA		T-SET
81		SERVICE MODE

** After short JA304 & JA307, and turn on the MAIN POWER switch, read data from EEPROM address 00H ~ 03H, and compare to the list below, if different, initialize the EEPROM.

Address	:	Data	Address	:	Data
00H	:	7AH	02H	:	71H
01H	:	73H	03H	:	79H

** There are four stages of service mode data.

First stage data from V00~V24 (Adjustment Mode).

To go into second stage of service mode data, press MENU key.

Second stage data from F01~F131 (Setting Mode).

To go into third stage of service mode data, press MENU key.

Third stage data is Check Mode.

To go into fourth stage of service mode data, press MENU key.

Fourth stage data from O01~O23 (Option Mode).

ADJUSTMENT MODE (FIRST STAGE)

EEPROM ITEMS	OSD	DATA LENGTH	INITIAL DATA	FIX/ADJ/AUTO	REMARK
R-DRIVE	V00	0~127	63	ADJ	PLS REFER TO
B-DRIVE	V00	0~127	63	ADJ	ADJ ITEM FOR
R-CUT	V00	0~255	127	ADJ	SCREEN AND
G-CUT	V00	0~255	127	ADJ	WHITE BALANCE
B-CUT	V00	0~255	127	ADJ	
RF-AGC	V01	0~127	50	AUTO	
VIF-VCO	V02	0~63	31	AUTO	
H-VCO	V03	0~7	3	AUTO	
SUB-CONTRAST	V04	0~127	100	ADJ	
SUB-COLOUR	V05	0~127	63	ADJ	
SUB-BRIGHT	V06	0~255	127	ADJ	
SUB-TINT	V07	0~127	63	ADJ	
SUB-SHARPNESS	V08	0~63	43	FIX	
SUB-COLOUR -YUV	V09	0~127	90	FIX	
SUB-TINT-YUV	V10	0~127	63	FIX	
V-SIZE 50 Hz	V11	0~63	38	ADJ	
V-SHIFT 50 Hz	V12	0~7	3	ADJ	
H-SHIFT 50 Hz	V13	0~31	9	ADJ	
SECAM-BR	V14	0~63	37	ADJ	
SECAM-BB	V15	0~63	22	ADJ	
SUB-VOL	V16	0~60	60	FIX	
V-SIZE 60 Hz	V17	-31~0~+31	0	FIX	IF NECESSARY, ADJ
V-SHIFT 60 Hz	V18	-7~0~+7	-1	FIX	IF NECESSARY, ADJ
H-SHIFT 60 Hz	V19	-15~0~+15	+2	FIX	IF NECESSARY, ADJ
S-TRAP (BG)	V20	0~15	7	AUTO	
S-TRAP (I)	V21	0~15	7	AUTO	
S-TRAP (DK)	V22	0~15	7	AUTO	
S-TRAP (M)	V23	0~15	7	AUTO	
S-TRAP (5.74)	V24	0~15	7	AUTO	

SETTING MODE (SECOND STAGE)						
EEPROM ITEMS	**FUNCTION**	**OSD**	**DATA LENGTH**	**INITIAL DATA**	**FIX/ADJ/AUTO**	**REMARK**
STRAPQ-BG	RAISE Q SOUND TRAP B/G	F01	0(NORMAL)/1(Q-UP)	0	FIX	
STRAPQ-I	RAISE Q SOUND TRAP I	F02	0(NORMAL)/1(Q-UP)	0	FIX	
STRAPQ-DK	RAISE Q SOUND TRAP D/K	F03	0(NORMAL)/1(Q-UP)	0	FIX	
STRAPQ-M	RAISE Q SOUND TRAP M	F04	0(NORMAL)/1(Q-UP)	0	FIX	
STRAPQ-574	RAISE Q SOUND TRAP BILINGUAL	F05	0(NORMAL)/1(Q-UP)	0	FIX	
C.CLIP-LVL	CLIP LEVEL CONTRAST CONTROL OF RGB INPUT	F06	0(20H)/1(40H) 0(20H)/1(40H)	0	FIX	
RGB-CLIP	CLIPPING OF RGB CONTRAST CONTROL	F07	0(CLIP OFF)/ 1(CLIP ON)	0	FIX	
BS	BLACK STRETCH	F08	0(ON)/1(OFF)	0	FIX	
ABCL	ABCL PROCESSING (ACL PROCESSING)	F09	0(OFF)/1(ON)	0	FIX	
ABCL-GAIN	ABCL PROCESSING GAIN	F10	0(LOW)/1(HIGH)	0	FIX	
S-OUT-LVL	AUDIO OUTPUT GAIN CONTROL	F11	0~127	95	FIX	
VIF-G	P-IF DETECTION GAIN OUTPUT	F12	0~7	4	FIX	
SHPG	SHARPNESS GAIN	F13	0(NORMAL)/1(HIGH)	0	FIX	
SHPG-P	SHARPNESS GAIN PAL	F14	0(NORMAL)/1(HIGH)	0	FIX	
SHPG-S	SHARPNESS GAIN SECAM	F15	0(NORMAL)/1(HIGH)	0	FIX	
SHPG-N4	SHARPNESS GAIN N443	F16	0(NORMAL)/1(HIGH)	0	FIX	
SHPG-N3	SHARPNESS GAIN N358	F17	0(NORMAL)/1(HIGH)	1	FIX	
YDL	Y SIGNAL DELAY	F18	0~7	5	FIX	
YDL-P	Y SIGNAL DELAY PAL	F19	0~7	5	FIX	
YDL-S	Y SIGNAL DELAY SECAM	F20	0~7	7	FIX	
YDL-N4	Y SIGNAL DELAY N443	F21	0~7	5	FIX	
YDL-N3	Y SIGNAL DELAY N358	F22	0~7	5	FIX	
YDL-AV	Y SIGNAL DELAY AV	F23	0~7	6	FIX	
YDL-AV-P	Y SIGNAL DELAY PAL (AV)	F24	0~7	6	FIX	
YDL-AV-S	Y SIGNAL DELAY SECAM (AV)	F25	0~7	7	FIX	
YDL-AV-N4	Y SIGNAL DELAY N443 (AV)	F26	0~7	6	FIX	
YDL-AV-N3	Y SIGNAL DELAY N358 (AV)	F27	0~7	6	FIX	
YDL-YUV	Y SIGNAL DELAY YUV	F28	0~7	6	FIX	
COL-AV (OFFSET)	COLOUR OFFSET AV	F29	-31~0~+31	+10	*FIX	BUS SET UP
COL-P (OFFSET)	COLOUR OFFSET PAL	F30	-30~0~+31	0	FIX	
COL-S (OFFSET)	COLOUR OFFSET SECAM	F31	-31~0~+31	+9	FIX	
COL-N4 (OFFSET)	COLOUR OFFSET N443	F32	-31~0~+31	-8	FIX	
COL-N3 (OFFSET)	COLOUR OFFSET N358	F33	-31~0~+31	-7	FIX	
COL-ADJ (OFFSET)	COLOUR OFFSET ADJUST	F34	-31~0~+31	0	*FIX	BUS SET UP
SHP-AV (OFFSET)	SHARPNESS OFFSET AV	F35	-31~0~+31	+5	FIX	
SHP-YUV (OFFSET)	SHARPNESS OFFSET YUV	F36	-31~0~+31	0	FIX	
SHP-P (OFFSET)	SHARPNESS OFFSET PAL	F37	-31~0~+31	0	FIX	
SHP-S (OFFSET)	SHARPNESS OFFSET SECAM	F38	-31~0~+31	-5	FIX	
SHP-N4 (OFFSET)	SHARPNESS OFFSET N443	F39	-31~0~+31	0	FIX	
SHP-N3 (OFFSET)	SHARPNESS OFFSET N358	F40	-31~0~+31	0	FIX	
TINT-AV (OFFSET)	TINT OFFSET AV	F41	-63~0~+63	0	*FIX	BUS SET UP
TINT-ADJ (OFFSET)	TINT OFFSET ADJUST	F42	-63~0~+63	0	*FIX	BUS SET UP
TINT-YUV-ADJ (OFFSET)	TINT YUV OFFSET ADJUST	F43	-63~0~+63	0	FIX	
R-R (OFFSET)	R-DRIVE OFFSET WHEN WHITE TEMP IS RED	F44	-63~0~+63	+8	*FIX	BUS SET UP
B-R (OFFSET)	B-DRIVE OFFSET WHEN WHITE TEMP IS RED	F45	-63~0~+63	-10	*FIX	BUS SET UP
R-B (OFFSET)	R-DRIVE OFFSET WHEN WHITE TEMP IS BLUE	F46	-63~0~+63	-3	*FIX	BUS SET UP
B-B (OFFSET)	B-DRIVE OFFSET WHEN WHITE TEMP IS BLUE	F47	-63~0~+63	+16	*FIX	BUS SET UP
DT	WIDEBAND CHROMA TRAP (FOR SECAM)	F48	0(NARROW)/ 1(WIDE)	0	FIX	

SETTING MODE (SECOND STAGE)						
EEPROM ITEMS	**FUNCTION**	**OSD**	**DATA LENGTH**	**INITIAL DATA**	**FIX/ADJ/AUTO**	**REMARK**
DT-P	WIDEBAND CHROMA TRAP (FOR SECAM) PAL	F49	0(NARROW)/ 1(WIDE)	0	FIX	
DT-S	WIDEBAND CHROMA TRAP (FOR SECAM) SECAM	F50	0(NARROW)/ 1(WIDE)	1	FIX	
DT-N4	WIDEBAND CHROMA TRAP (FOR SECAM) N443	F51	0(NARROW)/ 1(WIDE))	0	FIX	
DT-N3	WIDEBAND CHROMA TRAP (FOR SECAM) N358	F52	0(NARROW)/ 1(WIDE)	0	FIX	
TRAP	CENTER VALUE OF CHROMA TRAP	F53	0~3	2	FIX	
TRAP-P	CENTER VALUE OF CHROMA TRAP PAL	F54	0~3	2	FIX	
TRAP-S	CENTER VALUE OF CHROMA TRAP SECAM	F55	0~3	2	FIX	
TRAP-N4	CENTER VALUE OF CHROMA TRAP N443	F56	0~3	2	FIX	
TRAP-N3	CENTER VALUE OF CHROMA TRAP N358	F57	0~3	2	FIX	
1W-TV	VERT SYNC DETECTION MODE FOR AV (1 WINDOW/2 WINDOW)	F58	ACCEPTABLE PERIOD: 0(AUTOMATIC CHANGE) 1(FIX (WIDE))	0	FIX	
1W-AV	VERT SYNC DETECTION MODE FOR TV (1 WINDOW/2 WINDOW)	F59	ACCEPTABLE PERIOD: 0(AUTOMATIC CHANGE) 1(FIX (WIDE))	1	FIX	
V-FREE (NO SYNC)	SET VERTICAL TO FORCED FREE RUN MODE	F60	0(NORMAL)/ 1(FREERUN)	0	FIX	
AFC2 (NO SYNC)	HORIZONTAL AFC2 GAIN	F61	0(NORMAL)/1(DOWN)	0	FIX	
GAMMA	GAMMA CORRECTION QTY	F62	0~3	0	FIX	
BS-D/C	BLACK STRETCH CONTROL LEVEL	F63	0~15	10	FIX	
BS-GAIN	BLACK STRETCH LEVEL	F64	0(NORMAL)/1(DOWN)	0	FIX	
OM-DET	OVER MODULATION DETECT	F65	0(OFF)/1(ON)	0	FIX	
SL-TV	SLICE LEVEL OF SYNC DETECTION TV	F66	0~7	2	FIX	
SL-AV	SLICE LEVEL OF SYNC DETECTION AV	F67	0~7	4	FIX	
SL-YUV	SLICE LEVEL OF SYNC DETECTION YUV	F68	0~7	4	FIX	
VD2/VD1/AS/ FBP-TV	VD2 & VD1-VERT SYNC DETECT MIN WIDTH MSB & LSB- FBP-FLYBACK PULSE SLICE RESPECTIVELY, AS-TV/AV/YUV SWITCH & CH CHANGE, LEVEL (TV)	F69	0~15	6	FIX	
VD2/VD1/AS/ FBP-AV	VD2 & VD1-VERT SYNC DETECT MIN WIDTH MSB & LSB RESPECTIVELY, AS-TV/AV/YUV SWITCH & CH CHANGE, FBP-FLYBACK PULSE SLICE LEVEL (AV)	F70	0~15	14	FIX	
VD2/VD1/AS/ FBP-YUV	VD2 & VD1-VERT SYNC DETECT MIN WIDTH MSB & LSB RESPECTIVELY, AS-TV/AV/YUV SWITCH & CH CHANGE, FBP-FLYBACK PULSE SLICE LEVEL (YUV)	F71	0~15	14	FIX	
VDL	COLOUR DIFF. INPUT PHASE ADJ	F72	0~3	0	FIX	
UDL	COLOUR DIFF. INPUT PHASE ADJ	F73	0~3	0	FIX	
AUTO-SCM-KIL-TV	SECAM COLOUR KILLER SENSITIVITY (TV)	F74	0~3	1	FIX	
SCM-YDL	SECAM Y-DELAY	F75	0/1	0	FIX	
SECAM-BGP	INTERNAL SECAM BGP TIMING	F76	0/1	0	FIX	

SETTING MODE (SECOND STAGE)						
EEPROM ITEMS	**FUNCTION**	**OSD**	**DATA LENGTH**	**INITIAL DATA**	**FIX/ADJ/AUTO**	**REMARK**
N45	INHIBIT 50Hz NTSC 4.43	F77	0(NORMAL)/ 1(INHIBIT)	0	FIX	
DL-REV	NON INTERLACE PHASE	F78	0(NORMAL)/ 1(REVERSE)	0	FIX	
DL-OUT	VD PULSE FOR MCU WHEN 312/313H MODE IS ENABLED	F79	0(312.5H)/ 1(312/313H)	0	FIX	
TXT-POS-H (TELETEXT)	TELETEXT HORIZONTAL POSITION	F80	0~63	30	FIX	
TXT-POS-V (TELETEXT)	TELETEXT VERTICAL POSITION	F81	0~63	34	FIX	
OSD-POS	OSD POSITION	F82	0~127	9	FIX	
CP	CHARGE PUMP	F83	0(FAST TUNING)/ 1(MODERATE SPEED TUNING)	1	FIX	
SMALL-SURR (S-CTRL)	SURROUND MODE SELECT	F84	0(EALA EFFECT LARGE)/1(EALA EFFECT SMALL)	0	FIX	
SUB-BASS (S-CTRL)	SUB BASS CONTROL	F85	0(0dB), 1(-1dB), 2(-2dB), 3(-3dB), 4(0dB), 5(+1dB), 6(+2dB), 7(+3dB)	6	FIX	
SUB-TREB) (S-CTRL)	SUB TREBLE CONTROL	F86	0(0dB), 1(-1dB), 2(-2dB) , 3(-3dB), 4(0dB), 5(+1dB), 6(+2dB), 7(+3dB)	0	FIX	
AGC-ADJ (S-CTRL)	AGC LEVEL ADJUST	F87	0(AGC Off),1(300mVrms), 2(400mVrms),3(500Vrms) ,/4(600mVrms)	0	FIX	
AGC-SW-OFF (NICAM)	NICAM AGC SWITCH OFF	F88	0(DISABLE, FIX GAIN), 1(ENABLE)	1	FIX	
AGC-GAIN-ADJ (NICAM)	NICAM AGC GAIN ADJUST	F89	0~31	16	FIX	
FM-LEVEL-ADJ (NICAM)	FM LEVEL ADJUST	F90	-15~0~+15	0	FIX	
IGR-LEVEL-ADJ (NICAM)	IGR LEVEL ADJUST	F91	-15~0~+15	+1	FIX	
NICAM-BG-LVL-ADJ(NICAM)	NICAM B/G LEVEL ADJUST	F92	-15~0~+15	-2	FIX	
NICAM-I-LVL-ADJ (NICAM)	NICAM I LEVEL ADJUST DETECTION YUV	F93	15~0~+15	+3	FIX	
NICAM-DK-LVL-ADJ(NICAM)	NICAM D/K LEVEL ADJUST	F94	15~0~+15	-1	FIX	
NICAM-LOW-ERR-LIM (NICAM)	NICAM LOWER ERROR LIMIT	F95	0~255	35	FIX	
NICAM-UPP-ERR-LIM (NICAM)	NICAM UPPER ERROR LIMIT	F96	0~255	70	FIX	
IGR-GAIN-ADJ (IGR)	IGR GAIN ADJUST MIN WIDTH MSB & LSB	F97	-6~0~+7	0	FIX	
FM-ID-SPEED (NICAM)	FM SOUND IDENTIFICATION MODE	F98	0(SLOW)/1(MEDIUM)/ 2(FAST)/3(OFF)	1	FIX	
NICAM-AUTO-MUTE	NICAM AUTO DETECTION	F99	0(MUTE)/1(DEMUTE)	0	FIX	
ANA-OSD	RGB INPUT	F100	0(DIGITAL)/1(ANALOG)	0	FIX	
AUTO-SCM-KIL-AV-YUV	SECAM COLOUR KILLER	F101	0~3 SENSITIVITY (AV/YUV)	1	FIX	
AFC1-GAIN-TV	MSB OF HORIZONTAL AFC GAIN1 (TV)	F102	0(NORMAL)/1(x2)/ 2(x1.5)/3(3.5)	0	FIX	
AFC1-GAIN-AV	MSB OF HORIZONTAL AFC GAIN1 (AV)	F103	0(NORMAL)/1(x2)/ 2(x1.5)/3(3.5)	3	FIX	
AFC1-GAIN-YUV	MSB OF HORIZONTAL AFC GAIN1 (YUV)	F104	0(NORMAL)/1(x2)/ 2(x1.5)/3(3.5)	3	FIX	
CON-REDUCE	CONTRAST (PICTURE LEVEL) CONTROL	F105	0(0%)~1(25%)~2(50%)	0	FIX	
TAKE-OFF-TV	TAKEOFF/BPF OF CHROMA BPF PROCESSING TV	106	0(BPF)/1(TAKEOFF)	1	FIX	

SETTING MODE (SECOND STAGE)						
EEPROM ITEMS	**FUNCTION**	**OSD**	**DATA LENGTH**	**INITIAL DATA**	**FIX/ADJ/AUTO**	**REMARK**
TAKE-OFF-AV	TAKEOFF/BPF OF CHROMA BPF PROCESSING AV	F107	0(BPF)/1(TAKEOFF)/	0	FIX	
TAKE-OFF-YUV	TAKEOFF/BPF OF CHROMA BPF PROCESSING YUV	F108	0(BPF)/1(TAKEOFF)	0	FIX	
C-ANGLE (103 DEG/ 95 DEG)	CHROMA MODULATION ANGLE	F109	0 (103deg) / 1 (95deg) 1(312/313H)	1	FIX	
STD-BY-WO-BRIGHT	PICTURE BLACK LEVEL (BRIGHT) CONTROL-POWER ON TO STDBY	F110	0~255	255	FIX	BUS SET UP
AC-FAIL-WO-BRIGHT	PICTURE BLACK LEVEL (BRIGHT) CONTROL-AC FAILURE	F111	0~255	255	FIX	
FORCED-SCM-KIL-TV	FORCED SECAM COLOUR KILLER SENSITIVITY (TV)	F112	0~3	2	FIX	
FORCED-SCM-KIL-AV-YUV	FORCED SECAM COLOUR KILLER SENSITIVITY (AV/YUV)	F113	0~3	2	FIX	
R-Y Adj. (S-CTRL)	COLOUR EDGE IMPROVEMENT	F114	0(DISABLE)/ 1(ENABLE)	0	FIX	BUS SET UP
V-Demute-Delay	VIDEO DEMUTE DELAY	F115	0~255	0	FIX	
S-Demute-Delay	SOUND DEMUTE DELAY	F116	0~255	0	FIX	
MER	S-BOOSTER FREQ. CHARACTERISTIC CONTROL	F117	0~255	70	FIX	
MEL1	S-BOOSTER LEVEL1	F118	0~255	150	FIX	
MEL2	S-BOOSTER LEVEL2	F119	0~255	156	FIX	
MEL3	S-BOOSTER LEVEL3	F120	0~255	163	FIX	
MEL4	S-BOOSTER LEVEL4	F121	0~255	165	FIX	
MEL5	S-BOOSTER LEVEL5	F122	0~255	170	FIX	
MEL6	S-BOOSTER LEVEL6	F123	0~255	180	FIX	
S-St-Point	S-BOOSTER START POINT	F124	0~60	21	FIX	
S-Sp-Point	S-BOOSTER STOP POINT	F125	0~60	60	FIX	
S-Step	S-BOOSTER STEP	F126	-15~0~+15	7	FIX	
Pow-Storage	CONTRAST/BRIGHTNESS INCREASE GRADUALLY	F127	0(DISABLE)/ 1(ENABLE)	0	*FIX	BUS SET UP
S-B-BASS	S-BOOSTER BASS LIMITER (WHEN S-BOOSTER ON)	F128	-30~0~+30	+15	FIX	
S-B-TREB	S-BOOSTER TREBLE LIMITER (WHEN S-BOOSTER ON)	F129	-30~0~+30	+15	FIX	
S-BASS	S-BOOSTER BASS LIMITER (WHEN S-BOOSTER OFF)	F130	-30~0~+30	+30	FIX	
S-TREB	S-BOOSTER TREBLE LIMITER (WHEN S-BOOSTER OFF)	F131	-30~0~+30	+30	FIX	

OPTION MODE (FOURTH STAGE)				
EEPROM ITEMS	**OSD**	**DATA LENGTH**	**INITIAL DATA**	**REMARK**
***HOTEL MODE	O01	0 (0FF) / 1 (0N)	0	OPTION SET UP
***HTL-POS	O02	0~99,—	—	OPTION SET UP
***HTL-VOL	O03	0~60,—	—	OPTION SET UP
VIF	O04	0 (38.0) / 1 (38.9)	1	OPTION SET UP
SECAM	O05	0 (DISABLE) / 1 (ENABLE)	1	OPTION SET UP
N443(RF)	O06	0 (DISABLE) / 1 (ENABLE)	1	OPTION SET UP
N358(RF)	O07	0 (DISABLE) / 1 (ENABLE)	1	OPTION SET UP
FORCE-COL	O08	0 (DISABLE) / 1 (ENABLE)	0	OPTION SET UP
S-SYS	O09	1(BG ONLY)~15(ALL)	15	OPTION SET UP
AV	O10	0 (DISABLE) / 1 (ENABLE)	1	OPTION SET UP
AV2	O11	0 (DISABLE) / 1 (ENABLE)	1	OPTION SET UP
YUV	O12	0 (DISABLE) / 1 (ENABLE)	1	OPTION SET UP
S-CTRL	O13	0 (DISABLE) / 1 (ENABLE)	1	OPTION SET UP
NICAM	O14	0 (DISABLE) / 1 (ENABLE)	0	OPTION SET UP
A2	O15	0 (DISABLE) / 1 (ENABLE)	0	OPTION SET UP
TELETEXT	O16	0 (DISABLE) / 1 (ENABLE)	0	OPTION SET UP
BILLINGUAL	O17	0 (DISABLE) / 1 (ENABLE)	0	OPTION SET UP
LANGUAGE	O18	1~255	63	OPTION SET UP
SEARCH-SPEED	O19	1(350)~2(450)~3(550)~4(650)~5(750)	3	OPTION SET UP
R/C-MENU	O20	0 (ENABLE) / 1 (DISABLE)	0	OPTION SET UP
LED-CONT	O21	0 (ONE LED) / 1 (TWO LED)	0	OPTION SET UP
S-BOOSTER	O22	0 (DISABLE) / 1 (ENABLE)	0	OPTION SET UP
SHARP-LOGO	O23	0 (DISABLE) / 1 (ENABLE)	0	OPTION SET UP

*** HOTEL MODE
OPERATION OF HOTEL MODE:
WHEN CHANGE SERVICE DATA O01 TO 1, HOTEL MODE IS ON
WHEN HOTEL MODE IS ON,
1. Max volume data is determined by option setting HTL-VOL (O03)
2. Channel position after POWER ON is determined by option setting HOTEL-POS (O02) (if option setting HOTEL-POS is not set, processing is according to last position data).
3. User data updates of EEPROM regarding the video and audio control is not allowed.
4. Preset mode is disable.
5. CH SETTING menu is not available.

3. ADJ ITEM: BUS SET UP (1ST & 2ND STAGE SERVICE DATA)

SERVICE ITEMS							
F29	COL-AV (OFFSET)	0					
F34	COL-ADJ (OFFSET)	+5					
F41	TINT-AV (OFFSET)	+3					
F42	TINT-ADJ (OFFSET)	-8					
F44	R-R (OFFSET)	+6					
F45	B-R (OFFSET)	-9					
F46	R-B (OFFSET)	-4					
F47	B-B (OFFSET)	+5					
F110	STD-BY-WO-BRIGHT	100					
F114	R-Y Adj	1					
F127	POWER-STORAGE	1					

4. ADJ ITEM: OPTION SET UP (4TH STAGE SERVICE DATA)

SERVICE ITEMS								
O01	HTL MODE	0 (OFF) / 1 (ON)	0					
O02	HTL-POS	0~99,—	—					
O03	HTL-VOL	0~60,—	—					
O04	VIF	0 (38.0) / 1 (38.9)	1					
O05	SECAM	0 (DISABLE) / 1 (ENABLE)	1					
O06	N443(RF)	0 (DISABLE) / 1 (ENABLE)	1					
O07	N358(RF)	0 (DISABLE) / 1 (ENABLE)	0					
O08	FORCE-COL	0 (DISABLE) / 1 (ENABLE)	0					
O09	S-SYS	1 (BG ONLY) ~ 15 (ALL)	7					
O10	AV	0 (DISABLE) / 1 (ENABLE)	1					
O11	AV2	0 (DISABLE) / 1 (ENABLE)	0					
O12	YUV	0 (DISABLE) / 1 (ENABLE)	0					
O13	S-CTRL	0 (DISABLE) / 1 (ENABLE)	0					
O14	NICAM	0 (DISABLE) / 1 (ENABLE)	0					
O15	A2	0 (DISABLE) / 1 (ENABLE)	0					
O16	TEXT	0 (DISABLE) / 1 (ENABLE)	0					
O17	BIL	0 (DISABLE) / 1 (ENABLE)	0					
O18	LANG	1~255	55					
O19	SERCH-SP	1(350)~2(450)~3(550)~4(650)~5(750)	3					
O20	R/C MENU	0 (ENABLE) / 1 (DISABLE)	1					
O21	LED-CONT	0 (ONE LED) / 1 (TWO LED)	0					
O22	S-BOOSTER	0 (DISABLE) / 1 (ENABLE)	0					
O23	SHARP-LOGO	0 (DISABLE) / 1 (ENABLE)	0					

5. ROM CORRECTION

Please do ROM-CORRECTION.

The data is as below.

MCU:	M37150MA-062FP
Soft Ver.	V2.11

ROMCORRECT1	If AC_DET turn ON & Protect timing is ended, Port refresh & IIC Bus are prohibited.
ROMCORRECT2	

EEPROM Data

Slave	Sub.	Data								Comment
$A2	$76	C1								ROMCORRECT1 Permission
$A2	$77	90								ROMCORRECT1 Address(H)
$A2	$78	6B								ROMCORRECT1 Address(L)
$A2	$79	16								ROMCORRECT1 Code length
$A2	$7A	E7								ROMCORRECT1 Checksum
$A2	$7B	FF								ROMCORRECT2 Permission
$A2	$7C	FF								ROMCORRECT2 Address(H)
$A2	$7D	FF								ROMCORRECT2 Address(L)
$A2	$7E	FF								ROMCORRECT2 Code length
$A2	$7F	FF								ROMCORRECT2 Checksum
$A2	$80-87	37	0B	0A	B7	08	07	A5	58	ROMCORRECT1 Data
$A2	$88-$8F	D0	03	4C	34	90	F7	C4	03	ROMCORRECT1 Data
$A2	$90-$97	4C	71	90	4C	6E	90	FF	FF	ROMCORRECT1 Data
$A2	$98-$9F	FF	FF	FF	FF	FF	FF	FF	FF	ROMCORRECT1 Data
$A2	$A0-$A7	FF	FF	FF	FF	FF	FF	FF	FF	ROMCORRECT2 Data
$A2	$A8-$AF	FF	FF	FF	FF	FF	FF	FF	FF	ROMCORRECT2 Data
$A2	$B0-$B7	FF	FF	FF	FF	FF	FF	FF	FF	ROMCORRECT2 Data
$A2	$B8-$BF	FF	FF	FF	FF	FF	FF	FF	FF	ROMCORRECT2 Data

1. Please set the MCL to MCL1.
2. After set the MCL , please set the INITIAL SETTING for each models.

INITIAL4:For Middle-East (All Channel Sound System are set to B/G)

MCL1 (HEX AE)		
CH-NO	**Fv (MHz)**	**SOUND SYS**
0		
1	48.25	B/G
2	62.25	B/G
3	77.25	D/K
4	175.25	B/G
5	182.25	B/G
6	183.25	D/K
7	191.25	D/K
8	196.25	B/G
9	199.25	M
10	210.25	B/G
11	224.25	B/G
12	471.25	B/G
13	487.25	I
14	503.25	B/G
15	575.25	B/G
16	583.25	B/G
17	599.25	B/G
18	621.25	M
19	639.25	D/K
20	703.25	B/G
21	735.25	I
22	767.25	B/G
23	815.25	B/G
24	855.25	I
25	855.25	B/G
26	55.25	M
27	83.25	M
28	183.25	M
29	193.25	M
30	217.25	M
31	471.25	M
32	477.25	M
33	693.25	M
34	885.25	M
35	112.25	B/G

MCL1 (HEX AE)		
CH-NO	**Fv (MHz)**	**SOUND SYS**
36	168.25	B/G
37		
38	294.25	B/G
39	463.25	B/G
40		
41	647.25	B/G
42	633.25	B/G
43	679.25	B/G
44	174.25	B/G
45	175.55	B/G
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NOTE: PLL DATA OF ABOVE FREQ SHOULD TAKE THE ACCOUNT OF PIF SETTING IN SERVICE OPTION O04 (VIF) BEFORE STORING INTO EEPROM.

6. SHIPPING SETTING & CHECKING

(1)The following default data has been factory-set for the EEPROM follow by INITIAL DATA selected.

ITEMS	DATA SETTING
LAST POWER	ON
LAST TV/AV MODE	TV MODE
LAST POSITION	CH 1
FLASHBACK CHANNEL	CH 1
1/2 DIGIT ENTRY	2 DIGIT ENTRY
VOLUME	0 (Min)
BLUE BACK	OFF
OFF TIMER	—:—
ON TIMER	—:—
ON TIMER POSITION	—
ON TIMER VOLUME	—
REMINDER	—:—
AFT	ALL CH ON
COLOUR SYSTEM	ALL CH AUTO
SKIP	ALL CH OFF
CONTRAST	60
COLOUR	0
BRIGHTNESS	0
TINT	0
SHARPNESS	0
WHITE TEMP	0

INITIAL	LANGUAGE	SOUND SYSTEM
4 (HEX 97)	ARABIC	B/G

FACTORY SETTING BY MODEL

(Reference: Geomagnetism Adjustment)

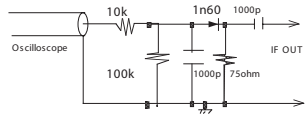
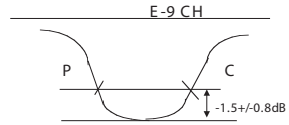
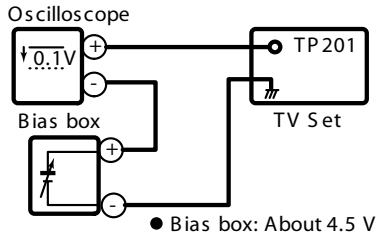
MODEL	MAGNETIC FIELD(V, H) nT		BACKGROUND	LANGUAGE	S-SYS	LANG QTY
MIDDLE EAST	30,000	20,000	18000K	ARABIC	B/G	5

*NOTE FOR OSD TYPE

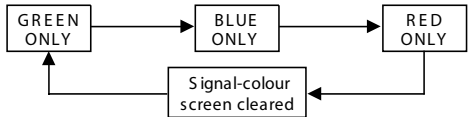
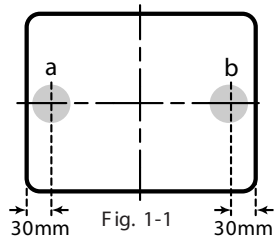
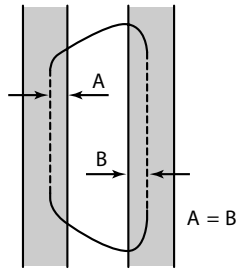
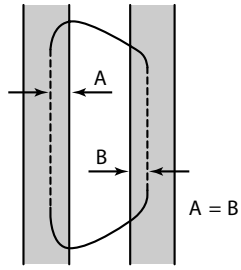
5 :ENGLISH/CHINESE/FRENCH/ARABIC/MALAY

[2] ADJUSTMENT

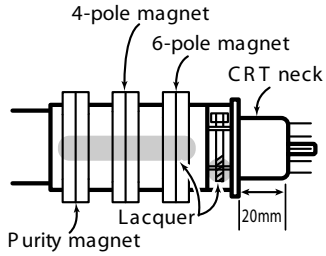
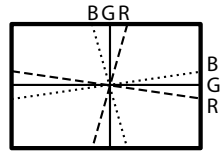
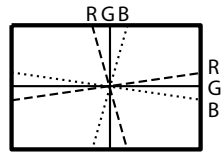
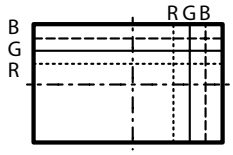
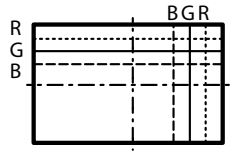
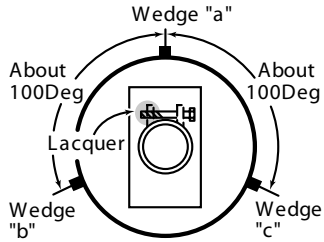
1. PIF ADJUSTMENT

No.	Adjustment point	Adjustment condition/procedure	Waveform or others
1	Tuner IFT (PRESET)	1. Get the tuner ready to receive the CH. E - 9 signal,but with no signal input. Adjust the PLL data. 2. Connect the sweep generator's output cable to the tuner antenna. (RF SWEEP). 3. Adjust the sweep generator's to 80dBV. 4. Connect the response lead (use LOW IMPEDANCE probe with wave detector ; see Fig.1) to the tuner's IF output terminal. (This terminal must have the probe alone connected). 5. Set the RF AGC to 0 - 6 V with no saturation with the waveform. 6.Adjust the tuner IF coil to obtain the waveform as shown in Fig. 2. NOTE: Be sure to keep the tuner cover in position during this adjustment.	 Fig.1  Fig.2
2	RF-AGC TAKE OVER POINT ADJUSTMENT (I2C BUS CONTROL) (AUTO & MANUAL ADJ)	1. Receive "PAL COLOUR BAR" signal. •Signal Strength: 56 ± 1 dBV (75 ohm open) 2. Connect the oscilloscope to TP201 (Tuner's AGC Terminal) as shown in Fig. 3-1.  Fig. 3-1 3. Call "V01" mode in service mode. Adjust the "V01" bus data to obtain the Tuner output pin drop 0.1~1.0V below maximum voltage. 4. Change the antenna input signal to 63~67dBV and make sure there is no noise. 5. Turn up the input signal to 90~95 dBV to be sure that there is no cross modulation beat.	* for Auto ADJ 1) Receive "PAL COLOUR BAR" signal. signal strength: 56 1dBV(75 ohm open) 2) Go to service mode. 3) Go to service data V01, press R/C to oper ate auto key (Hex C1) and confirm the "OK" display on the screen. 4) If appear NG, increase data some step and pls repeat step 2. 5) proceed step 4 & 5 in manual mode.

2. PURITY ADJUSTMENT

No.	Adjustment point	Adjustment condition/procedure	Waveform or others
1	PURITY ADJ.	1. Receive the GREEN-ONLY signal. Adjust the beam current to ~700 μA. 2. Degauss the CRT enough with the degausing coil. NOTE: Follow the Job Instruction Sheet to adjust the magnetic field. (Reference: page 3-12) 3. Maintain the purity magnet at the zero magnetic field and keep the static convergence roughly adjusted.. 4. Observe the points a, b as shown in Fig. 1-1 through the micro scope. Adjust the landings to the A rank requirement. 5. Orient the raster rotation to 0 eastward.. 6. Tighten up the deflection coil screws . •Tightening torque: 108 20 N (11 ± 2 kgf) 7. Make sure the CRT corners landing meet the A rank require ments. If not, stick the magnet sheet to correct it. NOTE: Note: This adjustment must be done after warming up the unit for 30 minutes or longer with a beam current over 700 μA. NOTE: Note: Set the service mode by JA304 & JA307 (short) then press factory process R/C RGB key to change to RGB mono colour mode. * For the following colours press R/C RGB(Hex 7E) key to change. 	 Fig. 1-1  Fig. 1-2 Rank "A" (on the right of the CRT)  Fig. 1-3 Rank "A" (on the left of the CRT) *Press R/C RGB key for 1 second in NORMAL MODE, the colour will change to RGB mono colour mode.

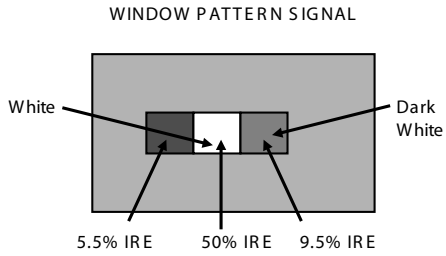
3. CONVERGENCE ADJUSTMENT

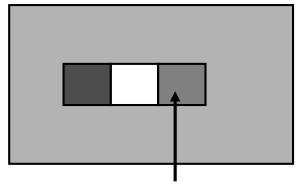
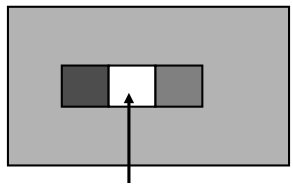
No.	Adjustment point	Adjustment condition/procedure	Waveform or others
1	CONVERGENCE ADJ. (To be done after the purity adjust-ment.)	1. Receive the "Crosshatch Pattern" signal. 2. Using the remote controller, call NORMAL mode. Static convergence 1. Turn the 4-pole magnet to a proper opening an gle in order to superpose the blue and red colours. 2. Turn the 6-pole magnet to a proper opening angle in order to superpose the green colour over the blue and red colours. Dynamic convergence. 1. Adjust the convergence on the fringes of the screen in the fol lowing steps. a) Fig. a: Drive the wedge at point "a" and swing the deflection coil upward. b) Fig. b: Drive the wedge at point "b" and "c" and swing the deflection coil downward. c) Fig. c: Drive the "c" wedge deeper and swing the deflection coil rightward.. d) Fig. d: Drive the "b" wedge deeper and swing the deflection coil leftward. 2. Fix all the wedges on the CRT and apply glass tape over them. 3. Apply lacquer to the deflection yoke lock screw, magnet unit (purity, 4-pole, 6-pole magnets) and magnet unit lock screw. Finally received the Red-only and Blue-only signals to make sure there is no other colours on the screen.  	 Fig. a  Fig. b  Fig. c  Fig. d 

4. H-VCO, VIF-VCO & S-TRAP fo ADJUSTMENT

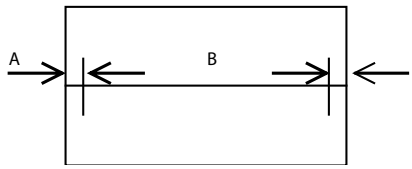
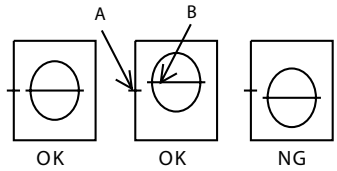
No.	Adjustment point	Adjustment condition/procedure	Waveform or others
1	H-VCO ADJ ADJ. (I2C BUS CON-TROL) (AUTO & MANUAL ADJ)	(MANUAL ADJ) 1) In No signal (RASTER) condition. 2) Go to service mode, choose service data V03. 3) Connect oscilloscope to IC801 pin11, adj V03 until freq become 15.625 ± 0.15 KHz (Auto Adj) 1) In No signal (RASTER) condition. 2) Go to service mode. 3) Choose service data V03, by pressing R/C Auto (Hex C1) key, OSD will appear “OK” at screen. 4) If appear “NG” pls repeat step 3.	
2	VIF-VCO ADJ. (I2C BUS CON-TROL) (AUTO & MANUAL ADJ)	(MANUAL ADJ) 1) In No signal (RASTER) condition. 2) Go to service mode, choose service data V02. 3) Connect oscilloscope to IC801 pin2, adj V02 until voltage become 2.5 ± 1 V. (Auto Adj) 1) In No signal (RASTER) condition. 2) Go to service mode, choose service data V02. 3) Press the R/C Auto (Hex C1) key, OSD will appear “OK” at screen. 4) If appear “NG” pls repeat step 3. NOTE: Note : This adjustment must be done after aging at least 3 minutes.	
3	S-TRAP fo ADJ (I2C BUS CON-TROL) (AUTO & MANUAL ADJ)	(MANUAL ADJ) 1) In No signal (RASTER) condition. 2) Go to service mode, choose service data V21. 3) Connect oscilloscope to TP 801, adj V21 until voltage become Min (below 5 V). 4) After that pls adj service data V20 & V24 same as “V21”, V22 to “V21-1”, V23 to “V21+2”. (Auto Adj) 1) In No signal (RASTER) condition. 2) Go to service mode, choose service data V21. 3) Press the R/C Auto (Hex C1) key, OSD will appear “OK” at screen. 4) If appear “NG” pls repeat step 3.	

5. SCREEN, WHITE BALANCE, SUB-BRIGHTNESS & SUB-CONTRAST (1) ADJUSTMENT

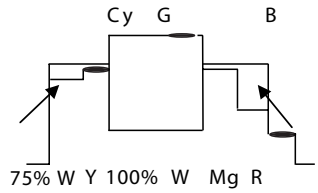
No.	Adjustment point	Adjustment condition/procedure	Waveform or others
1	SCREEN ADJUSTMENT (I2C BUS CON-TROL)	1) In window pattern signal condition. 2) Go to service mode, then select V00. 3) By pressing R/C key S-Mute(Hex E8), R-D auto switch to 63, B-D auto switch to 63, R-C auto switch to 127, G-C auto switch to 127, B-C auto switch to 127, Sub-Brightness V06 auto switch to 127.. Y-mute & Vertical off, screen will be in vertical cutoff condition. 4) Adjust the Screen so that cut-off line appear in low bright, then judge that whether the cut-off line appear in Red or Green or Blue colour, in this condition between R-C & G-C & B-C, fix the data of the colour appear in cut-off line and adj the other two cutoff data (Note1) so that cut-off line colour become white. 5) Turn the screen VR of FBT so that cut-off line just disappear and use R/C by pressing key S-Mute (Hex E8) to disable the Y-mute & V-cut so that picture appear in normal mode.	Note 1: R-CUTOFF(R-C)UP RC key "1"(HEX 80) R-CUTOFF(R-C)DOWN RC key "4"(HEX 20) G-CUTOFF(G-C)UP RC key "2"(HEX 40) G-CUTOFF(G-C)DOWN RC key "5"(HEX A0) B-CUTOFF(B-C)UP RC key "3"(HEX C0) B-CUTOFF(B-C)DOWN RC key "6"(HEX 60) R-DRIVE(R-D)UP RC key "7"(HEX E0) R-DRIVE(R-D)DOWN RC key "Flashback"(HEX E4) B-DRIVE(B-D)UP RC key "8"(HEX 10) B-DRIVE(B-D)DOWN RC key "0"(HEX 50)
2	WHITE BALANCE ADJ (to be done after screen adj) (I2C BUS CON-TROL)	1) WHITE (HIGH BEAM) (In Window Pattern Signal) First use Minolta Colour Analyzer CA100, let the gun point at Dark White position (as drawing attach), Adj V06 until LUMINANCE Y become 5 cd/m2, then let the gun point at White position (as drawing attach), Adj V04 until LUMINANCE Y become 200 cd/m2, Adj the R-D & B-D until the axis of colour temperature become. **X=255,Y=255 18000 K 2) DARK WHITE (LOW BEAM) (In Window Pattern Signal)Let the gun point at Dark White position, if the colour temperature data shift away from the data adjusted in step 1, adjust R-C,G-C & B-C but between them, first colour appears in Screen adj item 1)-4 is fixed, adj the other two so that to obtain the similar axis as above . **Repeat step 1 & 2 to get a regulated position.	 NOTE: Signal using W/B Pattern Generator SX-1006 (IWATSU) or equivalent.Window Pattern Signal output level are as above:

No.	Adjustment point	Adjustment condition/procedure	Waveform or others
3	SUB-BRIGHTNESS ADJUSTMENT (to be done after screen, white balance adj) (I2C BUS CONTROL)	1) In window pattern signal condition. 2) Using Minolta Color Analyzer CA-100, let the gun point at Dark White position (as attach drawing), adjust V06 Bus data until LUMINANCE Y = 3 ± 0.5 cd/m2.	 Dark White WINDOW PATTERN SIGNAL
4	SUB-CONTRAST (to be done after screen, white balance adj, sub-brightness adj) (I2C BUS CONTROL)	1) In Window Pattern Signal condition. 2) Using Minolta Color Analyzer CA-100, let the gun point at White position (as attach drawing), adjust V04 Bus data until LUMINANCE Y = 200 ± 10 cd/m2.	 White WINDOW PATTERN SIGNAL
5	Beam Current Check	1) Receive the “Monoscope Pattern” signal. 2) Press R/C to set Picture NORMAL condition. 3) Connect the DC miliammeter between TP 603 (+) & TP 602 (-). (Full Scale: 3mA Range) 4) Beam current must be within 1000 ± 100μA.	

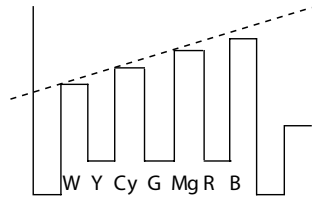
6. HORIZONTAL, VERTICAL, DEFLECTION LOOP and FOCUS ADJUSTMENT

No.	Adjustment point	Adjustment condition/procedure	Waveform or others
1	H-SHIFT (I2C BUS CON-TROL) (to be done after purity adj)	1) Receive Monoscope Pattern Signal (PAL 50 Hz) 2) Choose the service data V13. 3) Adjust the V13 bus data to have a balance position to spec of A=B (as attach drawing). 4) If cannot make it to A=B, adjust from the best point so that B slightly smaller than A.	
2	V-SHIFT (I2C BUS CON-TROL) (to be done after purity adj)	1) Receive Monoscope Pattern Signal (PAL 50 Hz) . 2) Choose the service data V12. 3) Adjust V12 bus data to have a most acceptable vertical position, the monoscope pattern should be Balance in vertical position. NOTE: Note: B line (Monoscope middle line) must same or nearest higher position to the A mark (Tube middle mark), refer to the attach drawing.	
3	V-SIZE (I2C BUS CON-TROL) (to be done after purity, V-shift adj)	1) Receive Monoscope Pattern Signal (PAL 50 Hz). 2) Choose the service data V11. 3) Adjust V11 bus data until the overscan become 10 ± 2.5 %. Caution1: Pls aging TV more than 10 minutes before adjustment. Caution2: For H-shift, V-shift & V-size adj, after adj please switch to Monoscope pattern signal (NTSC 60 Hz) to confirm all positions are same.	
4	SUB-SHARPNESS	1) Confirm Service data V08 is 43.	
5	Focus	1) Receive the "Monoscope Pattern" signal. 2) Press R/C to set Picture NORMAL condition. 3) Adjust the focus control to get the best focusing.	

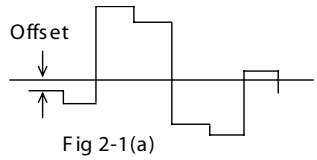
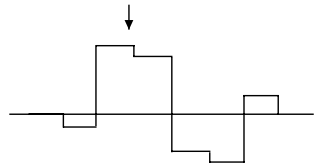
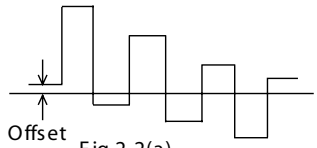
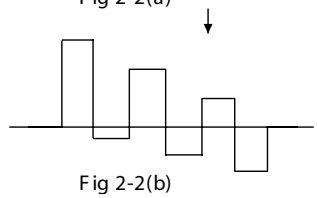
7. PAL CHROMA ADJUSTMENT

No.	Adjustment point	Adjustment condition/procedure	Waveform or others
1	SUB COLOUR (I2C BUS CON-TROL) (to be done after sub-picture, sub-tint adj)	1) Receive the “PAL Colour Bar” signal. 2) Press R/C to set Picture Normal condition. 3) Connect the oscilloscope to R-Amp Transistor. Base(TP 851) • Range : 100 mV/Div (AC)(Using 10:1 Probe) • Sweep Time : 10μ sec/Div 4) Using the R/C call V05 in SERVICE mode. Adjust V05 bus data, so that the 75% White & Red portions of PAL Colour Bar be at the same level shown as Fig 1-1. 5) Clear the SERVICE mode.	 Fig. 1-1

8. NTSC CHROMA ADJUSTMENT

No.	Adjustment point	Adjustment condition/procedure	Waveform or others
1	SUB-TINT (I2C BUS CON-TROL)	1) Receive the "NTSC3.58 Colour Bar" signal thru AV in. 2) Connect the oscilloscope to B-Amp Transistor Base (TP853). •Range : 100mV/Div (AC)(Use Probe 10:1) •Sweep time : 10μsec/Div 3) In Service mode, go to V07, press R/C Y-mute(Hex E4) or FLASHBACK key. 4) Call the "V07" data in service mode. Adjust the "V07" bus data to obtain the waveform shown as Fig. 1-1. 5) Disable Y-Mute by pressing key(Hex E4) or FLASHBACK, then clear the SERVICE mode.	 Fig. 1-1

9. SECAM CHROMA ADJUSTMENT

No.	Adjustment point	Adjustment condition/procedure	Waveform or others
1	SECAM BLACK LEVEL R-Y/B-Y (I2C BUS CON-TROL)	1) Receive “SECAM COLOUR BAR” signal. 2) In the service mode, select service data V14. 3) Connect oscilloscope to TP 801. •Range : 20mV/Div (AC)(Use Probe 10:1 probe) •Sweep time : 20μ sec/Div 4) Adjust the V14 so that the offset of R-Y to minimum, shown in Fig 2-1(b), it means adjust the offset of between No signal line and Signal line to minimum. 5) In the service mode, select service data V15. 6) Connect oscilloscope to TP 801. •Range : 20mV/Div (AC)(Use Probe 10:1 probe) •Sweep time : 20μ sec/Div 7) Adjust the V15 so that the offset of B-Y to minimum, shown in Fig 2-2(b), it means adjust the offset of between No signal line and Signal line to minimum.	 Fig 2-1(a)  Fig 2-1(b)  Fig 2-2(a)  Fig 2-2(b)

10. PROTECTOR OPERATION CHECKING

No.	Adjustment point	Adjustment condition/procedure	Waveform or others
1	BEAM PROTECTOR	1) Receive "Monoscope Pattern" signal. 2) Set CONTRAST MAX. 3) Set BRIGHT MAX. 4) During the Collector & Emitter of Q853/4/5 short, make sure the protector ON and switch to standby mode. 5) In the service mode, select service data V15.	* Select one of Q853/4/5 to do each short.
2	H, V PROTECTOR	1) Receive "Monoscope Pattern" signal. 2) Connect output of Bias Box to D602 cathode (C602 positive). 3) Set voltage of Bias Box to 18V and make sure the protector is not working. 4) Set voltage of Bias Box to 24.5V, and make sure the protector is working.	
3	OTHER PROTECTOR	1) Once finish rectified Electrolytic Capacitor short testing in +B line, check all possible damaged components on +B line. (Use random selected set for inspection)	

11. A/V INPUT & OUTPUT CHECKING

No.	Adjustment point	Adjustment condition/procedure	Waveform or others
1	VIDEO AND AUDIO OUTPUT CHECK	1) Receive the "PAL Colour Bar" signal (100% White Colour Bar, Sound 400 Hz 100% Mod.) 2) Terminate the Video output with a 75 ohm impedance. Make sure the output is as specified (1.0 Vp-p $\pm$ 3 dB). 3) Terminate the Audio output with a 10K ohm impedance. Make sure the output is as specified (1.2 Vp-p $\pm$ 3 dB).	
2	VIDEO AND AUDIO INPUT CHECK	1) Using the TV/VIDEO key on the remote controller, make sure that the modes change in order of TV, AV & TV again and the video & audio output are according to the input terminal for each mode.	

12. FUNCTION OPERATION CHECKING (VIDEO AND AUDIO)

No.	Adjustment point	Adjustment condition/procedure	Waveform or others
1	CONTRAST key	1) Receive "Monoscope Pattern" signal. 2) Set MENU, then go into PICTURE mode to select CON TRAST. 3) Press Volume Up/Down key to check whether the CONTRAST effect is OK or not..	
2	COLOUR key	1) Receive "Colour Bar" signal. 2) Set MENU, then go into PICTURE mode to select COLOUR. 3) Press Volume Up/Down key to check whether the COLOUR effect is OK or not.	
3	BRIGHTNESS key	1) Receive "Monoscope Pattern" signal. 2) Set MENU, then go into PICTURE mode to select BRIGHT NESS. 3) Press Volume Up/Down key to check whether the BRIGHT NESS effect is OK or not.	
4	TINT key	1) Receive the "NTSC Colour Bar" signal thru AV in. 2) Set MENU, then go into PICTURE mode to select TINT. 3) Press Volume Up/Down key to check TINT, UP for GREEN direction and DOWN for PURPLE direction whether is OK or not.	
5	SHARPNESS key	1) Receive "Monoscope Pattern" signal. 2) Set MENU, then go into PICTURE mode to select SHARP NESS. 3) Press Volume Up/Down key to check whether the SHARP NESS effect is OK or not.	
6	CH DISPLAY COLOUR	1) All Ch (1~99) will have an OSD display of the channel number in green colour under AFT ON condition.	
7	WHITE TEMP	1) Receive "Monoscope Pattern" signal. 2) Set MENU, then go into PICTURE mode to select WHITE TEMP. 3) Press Volume Up/Down key to check WHITE TEMP function. The back ground will change to (shift right) bludish and (shift left) reddish..	
8	NORMAL Key	1) Once in PICTURE Mode, and the NORMAL key is pressed, all the settings will be present to normal setting. (Normal setting value for every mode). • CONTRAST : MAX • COLOUR : CENTER • BRIGHTNESS : CENTER • TINT : CENTER • SHARPNESS : CENTER • WHITE TEMP : CENTER	NOTE: If NORMAL mode, when press NORMAL key, will appear NORMAL OSD and all setting PICTURE function set to NORMAL.

<table>
<tr><th>No.</th><th>Adjustment point</th><th>Adjustment condition/procedure</th><th>Waveform or others</th></tr>
<tr><td>9</td><td>COLOUR SYSTEM</td><td>1) Receive the “PAL COLOUR BAR” signal, press MENU, choose CH-SETTING to select COLOUR modes except PAL, check the COLOUR is not working properly. Then, select the “PAL” mode. Check again its colour so that it is working prop erly.
2) Receive “SECAM COLOUR BAR” signal, press MENU, choose CH-SETTING to select COLOUR modes except SECAM, check the COLOUR is not working properly. Then, select the “SECAM” mode.
Check again its colour so that it is working properly.
3) Receive “NTSC 4.43” signal, press MENU, choose CH-SET TING to select COLOUR modes except N443, check the COLOUR is not working prop-erly. Then, select the N443 mode. Check again its colour so that it is working properly.
4) Receive “NTSC 3.58 COLOUR BAR” signal thru AV, press MENU, choose CH-SETTING to select COLOUR modes except N358, check the COLOUR is not working properly. Then, select the N358 mode.
Check again its colour so that it is working properly.</td><td></td></tr>
<tr><td>10</td><td>SOUND SYSTEM</td><td>1) Receive “PAL-D/K” signal, press MENU, choose CH-SETTING then go into SOUND mode to select B/G, I, M. Check the sound output is not working properly.Select D/K and check the sound output to make sure it is working properly.
2) Receive “PAL-I” signal, press MENU, choose CH-SETTING then go into SOUND mode to select B/G, D/K, M. Check the sound output is not working properly. Select I and check the sound output to make sure it is working properly.
3) Receive “PAL-B/G” signal, press MENU, choose CH-SETTING then go into SOUND mode to select I, D/K, M. Check the sound output is not working properly. Select B/G and check the sound output to make sure it is working properly.</td><td></td></tr>
<tr><td>11</td><td>NOISE MUTE CHECKING</td><td>1) Receive “PAL COLOUR BAR” signal.
2) Turn up the volume control to maximum, make sure the sound is heard from the speakers. Then put the unit in no signal state.
3) Check the sound mute is effective.
4) Finally turn sound level of CTV to minimum.</td><td></td></tr>
<tr><td>12</td><td>OSD LANGUAGE QUANTITY CHECK</td><td>1) Check OSD LANGUAGE quantity and type for respect model.
<table><tr><td>QUANTITY</td><td>ENGLISH</td><td>CHINESE</td><td>FRENCH</td></tr><tr><td>5</td><td>O</td><td>O</td><td>O</td></tr><tr><td>ARABIC</td><td>MALAY</td><td></td><td></td></tr><tr><td>O</td><td>O</td><td></td><td></td></tr></table></td><td></td></tr>
</table>

13. HEADPHONE JACK CHECKING

No.	Adjustment point	Adjustment condition/procedure	Waveform or others
1	HEADPHONE OUTPUT CHECKING	1) Receive PAL COLOUR BAR with SOUND 400Hz, 100% MOD ULATION (± 50kHz Dev). 2) Maximum volume, and check the headphone output with 400Hz sound and no sound out from speaker.	

14. SHOCK TEST CHECKING

No.	Adjustment point	Adjustment condition/procedure	Waveform or others
1	SHOCK TEST	1) Hit at the top of TV set for two time. 2) Check TV set not damage and TV operation operate correctly.	

15. ROM-CORRECTION CHECKING

No.	Adjustment point	Adjustment condition/procedure	Waveform or others
1	ROM-CORRECTION CHECK	1) Go to the service mode, then go to Check mode by pressing "MENU" button untill the attach service items appears. 2) Check the ROM-correction status by monitoring the screen, follow the model's setting. CHK1: If AC-DET turn ON & Protect timing is ended, Port refresh & IIC Bus are prohibited.	INFO SLV1 0 SLV2 0 SLV3 0 SLV4 0 SLV5 0 MICON :N4 CHK1:ACT SOFT : 2.11 CHK2:NO

Models	Micon version	CHK1	CHK2
21HF2-SS	A319WJN4 (ver 2.11)	ACT	NO

CHAPTER 4. MEMORY MAP

[1] MEMORY MAP

SLAVE ADDRESS : A0(00-FF) A2(100-1FF) A4(200-2FF) A6(300-3FF)

ADDRESS	DATA								MICON	EEPROM	EEPROM	CHASSIS		CTV FINAL		LAST INITIAL	REMARK
(HEX)	D7	D6	D5	D4	D3	D2	D1	D0	DEFAULT	RANGE	WRITE(CPU)	CHECK DATA	CHECK TYPE	CHECK DATA	CHECK TYPE	SETTING DATA	
00	EEPROM INITIALIZATION JUDGEMENT BYTE-0								7A	00-FF							
01	EEPROM INITIALIZATION JUDGEMENT BYTE-1								73	00-FF							
02	EEPROM INITIALIZATION JUDGEMENT BYTE-2								71	00-FF							
03	EEPROM INITIALIZATION JUDGEMENT BYTE-3								79	00-FF							
04	ROM VERSION								00	00-FF							
05	SOFTWARE VERSION (HIGH BYTE)								02	00-FF							(2) Change default value 01 to 02.
06	SOFTWARE VERSION (LOW BYTE)								0B	00-FF							(1) Change default value 14 to 1B. (2) Change default value 1B to 0B.
07																	
08	TUNING FREQUENCY (LOW BYTE)									00-FF							POS 0
09	TUNING FREQUENCY (HIGH BYTE)									00-FF							
0A	TUNING FREQUENCY (LOW BYTE)									00-FF							POS 1
0B	TUNING FREQUENCY (HIGH BYTE)									00-FF							
0C	TUNING FREQUENCY (LOW BYTE)									00-FF							POS 2
0D	TUNING FREQUENCY (HIGH BYTE)									00-FF							
0E	TUNING FREQUENCY (LOW BYTE)									00-FF							POS 3
0F	TUNING FREQUENCY (HIGH BYTE)									00-FF							
10	TUNING FREQUENCY (LOW BYTE)									00-FF							POS 4
11	TUNING FREQUENCY (HIGH BYTE)									00-FF							
12	TUNING FREQUENCY (LOW BYTE)									00-FF							POS 5
13	TUNING FREQUENCY (HIGH BYTE)									00-FF							
14	TUNING FREQUENCY (LOW BYTE)									00-FF							POS 6
15	TUNING FREQUENCY (HIGH BYTE)									00-FF							
16	TUNING FREQUENCY (LOW BYTE)									00-FF							POS 7
17	TUNING FREQUENCY (HIGH BYTE)									00-FF							
18	TUNING FREQUENCY (LOW BYTE)									00-FF							POS 8
19	TUNING FREQUENCY (HIGH BYTE)									00-FF							
1A	TUNING FREQUENCY (LOW BYTE)									00-FF							POS 9
1B	TUNING FREQUENCY (HIGH BYTE)									00-FF							
1C	TUNING FREQUENCY (LOW BYTE)									00-FF							POS 10
1D	TUNING FREQUENCY (HIGH BYTE)									00-FF							
1E	TUNING FREQUENCY (LOW BYTE)									00-FF							POS 11
1F	TUNING FREQUENCY (HIGH BYTE)									00-FF							
20	TUNING FREQUENCY (LOW BYTE)									00-FF							POS 12
21	TUNING FREQUENCY (HIGH BYTE)									00-FF							
22	TUNING FREQUENCY (LOW BYTE)									00-FF							POS 13
23	TUNING FREQUENCY (HIGH BYTE)									00-FF							
24	TUNING FREQUENCY (LOW BYTE)									00-FF							POS 14
25	TUNING FREQUENCY (HIGH BYTE)									00-FF							
26	TUNING FREQUENCY (LOW BYTE)									00-FF							POS 15
27	TUNING FREQUENCY (HIGH BYTE)									00-FF							
28	TUNING FREQUENCY (LOW BYTE)									00-FF							POS 16
29	TUNING FREQUENCY (HIGH BYTE)									00-FF							
2A	TUNING FREQUENCY (LOW BYTE)									00-FF							POS 17
2B	TUNING FREQUENCY (HIGH BYTE)									00-FF							
2C	TUNING FREQUENCY (LOW BYTE)									00-FF							POS 18
2D	TUNING FREQUENCY (HIGH BYTE)									00-FF							
2E	TUNING FREQUENCY (LOW BYTE)									00-FF							POS 19
2F	TUNING FREQUENCY (HIGH BYTE)									00-FF							
30	TUNING FREQUENCY (LOW BYTE)									00-FF							POS 20
31	TUNING FREQUENCY (HIGH BYTE)									00-FF							
32	TUNING FREQUENCY (LOW BYTE)									00-FF							POS 21
33	TUNING FREQUENCY (HIGH BYTE)									00-FF							
34	TUNING FREQUENCY (LOW BYTE)									00-FF							POS 22
35	TUNING FREQUENCY (HIGH BYTE)									00-FF							
36	TUNING FREQUENCY (LOW BYTE)									00-FF							POS 23
37	TUNING FREQUENCY (HIGH BYTE)									00-FF							
38	TUNING FREQUENCY (LOW BYTE)									00-FF							POS 24
39	TUNING FREQUENCY (HIGH BYTE)									00-FF							
3A	TUNING FREQUENCY (LOW BYTE)									00-FF							POS 25
3B	TUNING FREQUENCY (HIGH BYTE)									00-FF							
3C	TUNING FREQUENCY (LOW BYTE)									00-FF							POS 26
3D	TUNING FREQUENCY (HIGH BYTE)									00-FF							
3E	TUNING FREQUENCY (LOW BYTE)									00-FF							POS 27
3F	TUNING FREQUENCY (HIGH BYTE)									00-FF							
MODEL									MODEL								
LETTER NO.									LETTER NO.								

MEMORY MAP (Continued)

SLAVE ADDRESS : A0(00-FF) A2(100-1FF) A4(200-2FF) A6(300-3FF)

ADDRESS	DATA								MICON	EEPROM	EEPROM	CHASSIS		CTV FINAL		LAST INITIAL	
(HEX)	D7	D6	D5	D4	D3	D2	D1	D0	DEFAULT	RANGE	WRITE(CPU)	CHECK DATA	CHECK TYPE	CHECK DATA	CHECK TYPE	SETTING DATA	REMARK
40	TUNING FREQUENCY (LOW BYTE)									00-FF							POS 28
41	TUNING FREQUENCY (HIGH BYTE)									00-FF							
42	TUNING FREQUENCY (LOW BYTE)									00-FF							POS 29
43	TUNING FREQUENCY (HIGH BYTE)									00-FF							
44	TUNING FREQUENCY (LOW BYTE)									00-FF							POS 30
45	TUNING FREQUENCY (HIGH BYTE)									00-FF							
46	TUNING FREQUENCY (LOW BYTE)									00-FF							POS 31
47	TUNING FREQUENCY (HIGH BYTE)									00-FF							
48	TUNING FREQUENCY (LOW BYTE)									00-FF							POS 32
49	TUNING FREQUENCY (HIGH BYTE)									00-FF							
4A	TUNING FREQUENCY (LOW BYTE)									00-FF							POS 33
4B	TUNING FREQUENCY (HIGH BYTE)									00-FF							
4C	TUNING FREQUENCY (LOW BYTE)									00-FF							POS 34
4D	TUNING FREQUENCY (HIGH BYTE)									00-FF							
4E	TUNING FREQUENCY (LOW BYTE)									00-FF							POS 35
4F	TUNING FREQUENCY (HIGH BYTE)									00-FF							
50	TUNING FREQUENCY (LOW BYTE)									00-FF							POS 36
51	TUNING FREQUENCY (HIGH BYTE)									00-FF							
52	TUNING FREQUENCY (LOW BYTE)									00-FF							POS 37
53	TUNING FREQUENCY (HIGH BYTE)									00-FF							
54	TUNING FREQUENCY (LOW BYTE)									00-FF							POS 38
55	TUNING FREQUENCY (HIGH BYTE)									00-FF							
56	TUNING FREQUENCY (LOW BYTE)									00-FF							POS 39
57	TUNING FREQUENCY (HIGH BYTE)									00-FF							
58	TUNING FREQUENCY (LOW BYTE)									00-FF							POS 40
59	TUNING FREQUENCY (HIGH BYTE)									00-FF							
5A	TUNING FREQUENCY (LOW BYTE)									00-FF							POS 41
5B	TUNING FREQUENCY (HIGH BYTE)									00-FF							
5C	TUNING FREQUENCY (LOW BYTE)									00-FF							POS 42
5D	TUNING FREQUENCY (HIGH BYTE)									00-FF							
5E	TUNING FREQUENCY (LOW BYTE)									00-FF							POS 43
5F	TUNING FREQUENCY (HIGH BYTE)									00-FF							
60	TUNING FREQUENCY (LOW BYTE)									00-FF							POS 44
61	TUNING FREQUENCY (HIGH BYTE)									00-FF							
62	TUNING FREQUENCY (LOW BYTE)									00-FF							POS 45
63	TUNING FREQUENCY (HIGH BYTE)									00-FF							
64	TUNING FREQUENCY (LOW BYTE)									00-FF							POS 46
65	TUNING FREQUENCY (HIGH BYTE)									00-FF							
66	TUNING FREQUENCY (LOW BYTE)									00-FF							POS 47
67	TUNING FREQUENCY (HIGH BYTE)									00-FF							
68	TUNING FREQUENCY (LOW BYTE)									00-FF							POS 48
69	TUNING FREQUENCY (HIGH BYTE)									00-FF							
6A	TUNING FREQUENCY (LOW BYTE)									00-FF							POS 49
6B	TUNING FREQUENCY (HIGH BYTE)									00-FF							
6C	TUNING FREQUENCY (LOW BYTE)									00-FF							POS 50
6D	TUNING FREQUENCY (HIGH BYTE)									00-FF							
6E	TUNING FREQUENCY (LOW BYTE)									00-FF							POS 51
6F	TUNING FREQUENCY (HIGH BYTE)									00-FF							
70	TUNING FREQUENCY (LOW BYTE)									00-FF							POS 52
71	TUNING FREQUENCY (HIGH BYTE)									00-FF							
72	TUNING FREQUENCY (LOW BYTE)									00-FF							POS 53
73	TUNING FREQUENCY (HIGH BYTE)									00-FF							
74	TUNING FREQUENCY (LOW BYTE)									00-FF							POS 54
75	TUNING FREQUENCY (HIGH BYTE)									00-FF							
76	TUNING FREQUENCY (LOW BYTE)									00-FF							POS 55
77	TUNING FREQUENCY (HIGH BYTE)									00-FF							
78	TUNING FREQUENCY (LOW BYTE)									00-FF							POS 56
79	TUNING FREQUENCY (HIGH BYTE)									00-FF							
7A	TUNING FREQUENCY (LOW BYTE)									00-FF							POS 57
7B	TUNING FREQUENCY (HIGH BYTE)									00-FF							
7C	TUNING FREQUENCY (LOW BYTE)									00-FF							POS 58
7D	TUNING FREQUENCY (HIGH BYTE)									00-FF							
7E	TUNING FREQUENCY (LOW BYTE)									00-FF							POS 59
7F	TUNING FREQUENCY (HIGH BYTE)									00-FF							

MODEL							MODEL						
LETTER NO.							LETTER NO.						

MEMORY MAP (Continued)

SLAVE ADDRESS : A0(00-FF) A2(100-1FF) A4(200-2FF) A6(300-3FF)

ADDRESS	DATA								MICON	EEPROM	EEPROM	CHASSIS		CTV FINAL		LAST INITIAL	
(HEX)	D7	D6	D5	D4	D3	D2	D1	D0	DEFAULT	RANGE	WRITE(CPU)	CHECK DATA	CHECK TYPE	CHECK DATA	CHECK TYPE	SETTING DATA	REMARK
80	TUNING FREQUENCY (LOW BYTE)									00-FF							POS 60
81	TUNING FREQUENCY (HIGH BYTE)									00-FF							
82	TUNING FREQUENCY (LOW BYTE)									00-FF							POS 61
83	TUNING FREQUENCY (HIGH BYTE)									00-FF							
84	TUNING FREQUENCY (LOW BYTE)									00-FF							POS 62
85	TUNING FREQUENCY (HIGH BYTE)									00-FF							
86	TUNING FREQUENCY (LOW BYTE)									00-FF							POS 63
87	TUNING FREQUENCY (HIGH BYTE)									00-FF							
88	TUNING FREQUENCY (LOW BYTE)									00-FF							POS 64
89	TUNING FREQUENCY (HIGH BYTE)									00-FF							
8A	TUNING FREQUENCY (LOW BYTE)									00-FF							POS 65
8B	TUNING FREQUENCY (HIGH BYTE)									00-FF							
8C	TUNING FREQUENCY (LOW BYTE)									00-FF							POS 66
8D	TUNING FREQUENCY (HIGH BYTE)									00-FF							
8E	TUNING FREQUENCY (LOW BYTE)									00-FF							POS 67
8F	TUNING FREQUENCY (HIGH BYTE)									00-FF							
90	TUNING FREQUENCY (LOW BYTE)									00-FF							POS 68
91	TUNING FREQUENCY (HIGH BYTE)									00-FF							
92	TUNING FREQUENCY (LOW BYTE)									00-FF							POS 69
93	TUNING FREQUENCY (HIGH BYTE)									00-FF							
94	TUNING FREQUENCY (LOW BYTE)									00-FF							POS 70
95	TUNING FREQUENCY (HIGH BYTE)									00-FF							
96	TUNING FREQUENCY (LOW BYTE)									00-FF							POS 71
97	TUNING FREQUENCY (HIGH BYTE)									00-FF							
98	TUNING FREQUENCY (LOW BYTE)									00-FF							POS 72
99	TUNING FREQUENCY (HIGH BYTE)									00-FF							
9A	TUNING FREQUENCY (LOW BYTE)									00-FF							POS 73
9B	TUNING FREQUENCY (HIGH BYTE)									00-FF							
9C	TUNING FREQUENCY (LOW BYTE)									00-FF							POS 74
9D	TUNING FREQUENCY (HIGH BYTE)									00-FF							
9E	TUNING FREQUENCY (LOW BYTE)									00-FF							POS 75
9F	TUNING FREQUENCY (HIGH BYTE)									00-FF							
A0	TUNING FREQUENCY (LOW BYTE)									00-FF							POS 76
A1	TUNING FREQUENCY (HIGH BYTE)									00-FF							
A2	TUNING FREQUENCY (LOW BYTE)									00-FF							POS 77
A3	TUNING FREQUENCY (HIGH BYTE)									00-FF							
A4	TUNING FREQUENCY (LOW BYTE)									00-FF							POS 78
A5	TUNING FREQUENCY (HIGH BYTE)									00-FF							
A6	TUNING FREQUENCY (LOW BYTE)									00-FF							POS 79
A7	TUNING FREQUENCY (HIGH BYTE)									00-FF							
A8	TUNING FREQUENCY (LOW BYTE)									00-FF							POS 80
A9	TUNING FREQUENCY (HIGH BYTE)									00-FF							
AA	TUNING FREQUENCY (LOW BYTE)									00-FF							POS 81
AB	TUNING FREQUENCY (HIGH BYTE)									00-FF							
AC	TUNING FREQUENCY (LOW BYTE)									00-FF							POS 82
AD	TUNING FREQUENCY (HIGH BYTE)									00-FF							
AE	TUNING FREQUENCY (LOW BYTE)									00-FF							POS 83
AF	TUNING FREQUENCY (HIGH BYTE)									00-FF							
B0	TUNING FREQUENCY (LOW BYTE)									00-FF							POS 84
B1	TUNING FREQUENCY (HIGH BYTE)									00-FF							
B2	TUNING FREQUENCY (LOW BYTE)									00-FF							POS 85
B3	TUNING FREQUENCY (HIGH BYTE)									00-FF							
B4	TUNING FREQUENCY (LOW BYTE)									00-FF							POS 86
B5	TUNING FREQUENCY (HIGH BYTE)									00-FF							
B6	TUNING FREQUENCY (LOW BYTE)									00-FF							POS 87
B7	TUNING FREQUENCY (HIGH BYTE)									00-FF							
B8	TUNING FREQUENCY (LOW BYTE)									00-FF							POS 88
B9	TUNING FREQUENCY (HIGH BYTE)									00-FF							
BA	TUNING FREQUENCY (LOW BYTE)									00-FF							POS 89
BB	TUNING FREQUENCY (HIGH BYTE)									00-FF							
BC	TUNING FREQUENCY (LOW BYTE)									00-FF							POS 90
BD	TUNING FREQUENCY (HIGH BYTE)									00-FF							
BE	TUNING FREQUENCY (LOW BYTE)									00-FF							POS 91
BF	TUNING FREQUENCY (HIGH BYTE)									00-FF							
MODEL									MODEL								
LETTER NO.									LETTER NO.								

MEMORY MAP (Continued)

SLAVE ADDRESS : A0(00-FF) A2(100-1FF) A4(200-2FF) A6(300-3FF)

ADDRESS (HEX)	DATA D7	D6	D5	D4	D3	D2	D1	D0	MICON DEFAULT	EEPROM RANGE	EEPROM WRITE(CPU)	CHASSIS CHECK DATA	CHASSIS CHECK TYPE	CTV FINAL CHECK DATA	CTV FINAL CHECK TYPE	LAST INITIAL SETTING DATA	REMARK
C0	TUNING FREQUENCY (LOW BYTE)									00-FF							POS 92
C1	TUNING FREQUENCY (HIGH BYTE)									00-FF							
C2	TUNING FREQUENCY (LOW BYTE)									00-FF							POS 93
C3	TUNING FREQUENCY (HIGH BYTE)									00-FF							
C4	TUNING FREQUENCY (LOW BYTE)									00-FF							POS 94
C5	TUNING FREQUENCY (HIGH BYTE)									00-FF							
C6	TUNING FREQUENCY (LOW BYTE)									00-FF							POS 95
C7	TUNING FREQUENCY (HIGH BYTE)									00-FF							
C8	TUNING FREQUENCY (LOW BYTE)									00-FF							POS 96
C9	TUNING FREQUENCY (HIGH BYTE)									00-FF							
CA	TUNING FREQUENCY (LOW BYTE)									00-FF							POS 97
CB	TUNING FREQUENCY (HIGH BYTE)									00-FF							
CC	TUNING FREQUENCY (LOW BYTE)									00-FF							POS 98
CD	TUNING FREQUENCY (HIGH BYTE)									00-FF							
CE	TUNING FREQUENCY (LOW BYTE)									00-FF							POS 99
CF	TUNING FREQUENCY (HIGH BYTE)									00-FF							
D0		FAVORITE CHANNEL 1							0A	00-65							POS 10
D1		FAVORITE CHANNEL 2							14	00-65							POS 20
D2		FAVORITE CHANNEL 3							1E	00-65							POS 30
D3		FAVORITE CHANNEL 4							28	00-65							POS 40
D4			LAST CONTRAST						3C	00-3C							
D5			LAST COLOUR						1E	00-3C							
D6			LAST BRIGHTNESS						1E	00-3C							
D7			LAST TINT						1E	00-3C							
D8			LAST SHARPNESS						1E	00-3C							
D9							LAST WHITE TEMP.		01	00-02							
DA							LAST SURROUND MODE		00	00-02							
DB			LAST TREBLE						1E	00-3C							
DC			LAST BASS						1E	00-3C							
DD			LAST BALANCE						1E	00-3C							
DE								S-Booster	01	00-01							(2) Add S-Booster mode for user setting on SOUND menu.
DF																	
E0	POS 7	POS 6	POS 5	POS4	POS 3	POS 2	POS 1	POS 0	FF	00-FF							
E1	POS15	POS14	POS13	POS12	POS11	POS10	POS 9	POS 8	FF	00-FF							
E2	POS23	POS22	POS21	POS20	POS19	POS18	POS17	POS16	FF	00-FF							
E3	POS31	POS30	POS29	POS28	POS27	POS26	POS25	POS24	FF	00-FF							
E4	POS39	POS38	POS37	POS36	POS35	POS34	POS33	POS32	FF	00-FF							
E5	POS47	POS46	POS45	POS44	POS43	POS42	POS41	POS40	FF	00-FF							
E6	POS55	POS54	POS53	POS52	POS51	POS50	POS49	POS48	FF	00-FF							1= AFT ON, 0=AFT OFF
E7	POS63	POS62	POS61	POS60	POS59	POS58	POS57	POS56	FF	00-FF							
E8	POS71	POS70	POS69	POS68	POS67	POS66	POS65	POS64	FF	00-FF							
E9	POS79	POS78	POS77	POS76	POS75	POS74	POS73	POS72	FF	00-FF							
EA	POS87	POS86	POS85	POS84	POS83	POS82	POS81	POS80	FF	00-FF							
EB	POS95	POS94	POS93	POS92	POS91	POS90	POS89	POS88	FF	00-FF							
EC					POS99	POS98	POS97	POS96	FF	00-0F							
ED																	
EE	Blue Back	1/2 digit	TEXT			LANGUAGE			48	00-FF							
EF			LAST VOLUME						00	00-3C							
F0	POS 7	POS 6	POS 5	POS4	POS 3	POS 2	POS 1	POS 0	01	00-FF							
F1	POS15	POS14	POS13	POS12	POS11	POS10	POS 9	POS 8	00	00-FF							
F2	POS23	POS22	POS21	POS20	POS19	POS18	POS17	POS16	00	00-FF							
F3	POS31	POS30	POS29	POS28	POS27	POS26	POS25	POS24	00	00-FF							
F4	POS39	POS38	POS37	POS36	POS35	POS34	POS33	POS32	00	00-FF							
F5	POS47	POS46	POS45	POS44	POS43	POS42	POS41	POS40	00	00-FF							
F6	POS55	POS54	POS53	POS52	POS51	POS50	POS49	POS48	00	00-FF							1= SKIP ON, 0=SKIP OFF
F7	POS63	POS62	POS61	POS60	POS59	POS58	POS57	POS56	00	00-FF							
F8	POS71	POS70	POS69	POS68	POS67	POS66	POS65	POS64	00	00-FF							
F9	POS79	POS78	POS77	POS76	POS75	POS74	POS73	POS72	00	00-FF							
FA	POS87	POS86	POS85	POS84	POS83	POS82	POS81	POS80	00	00-FF							
FB	POS95	POS94	POS93	POS92	POS91	POS90	POS89	POS88	00	00-FF							
FC					POS99	POS98	POS97	POS96	00	00-0F							
FD	POWER								AA	AA(On), 55(Off)							
FE	ON TIMER VOLUME								FF	00-3C, FF							
FF	ON TIMER CHANNEL								FF	00-65, FF							
MODEL									MODEL								
LETTER NO.									LETTER NO.								

MEMORY MAP (Continued)

SLAVE ADDRESS : A0(00-FF) A2(100-1FF) A4(200-2FF) A6(300-3FF)

ADDRESS	DATA								MICON	EEPROM	EEPROM	CHASSIS		CTV FINAL		LAST INITIAL	
(HEX)	D7	D6	D5	D4	D3	D2	D1	D0	DEFAULT	RANGE	WRITE(CPU)	CHECK DATA	CHECK TYPE	CHECK DATA	CHECK TYPE	SETTING DATA	REMARK
100			S-SYSTEM (POS0)			C-SYSTEM (POS0)			00	00-34							
101			S-SYSTEM (POS1)			C-SYSTEM (POS1)			00	00-34							S-SYSTEM
102			S-SYSTEM (POS2)			C-SYSTEM (POS2)			00	00-34							0: B/G
103			S-SYSTEM (POS3)			C-SYSTEM (POS3)			00	00-34							1: I
104			S-SYSTEM (POS4)			C-SYSTEM (POS4)			00	00-34							2: D/K
105			S-SYSTEM (POS5)			C-SYSTEM (POS5)			00	00-34							3: M
106			S-SYSTEM (POS6)			C-SYSTEM (POS6)			00	00-34							
107			S-SYSTEM (POS7)			C-SYSTEM POS7)			00	00-34							C-SYSTEM
108			S-SYSTEM (POS8)			C-SYSTEM (POS8)			00	00-34							0: AUTO
109			S-SYSTEM (POS9)			C-SYSTEM (POS9)			00	00-34							1: PAL
10A			S-SYSTEM (POS10)			C-SYSTEM (POS10)			00	00-34							2:SECAM
10B			S-SYSTEM (POS11)			C-SYSTEM (POS11)			00	00-34							3: N443
10C			S-SYSTEM (POS12)			C-SYSTEM (POS12)			00	00-34							4:N358
10D			S-SYSTEM (POS13)			C-SYSTEM (POS13)			00	00-34							
10E			S-SYSTEM (POS14)			C-SYSTEM (POS14)			00	00-34							
10F			S-SYSTEM (POS15)			C-SYSTEM (POS15)			00	00-34							
110			S-SYSTEM (POS16)			C-SYSTEM (POS16)			00	00-34							
111			S-SYSTEM (POS17)			C-SYSTEM (POS17)			00	00-34							
112			S-SYSTEM (POS18)			C-SYSTEM (POS18)			00	00-34							
113			S-SYSTEM (POS19)			C-SYSTEM (POS19)			00	00-34							
114			S-SYSTEM (POS20)			C-SYSTEM (POS20)			00	00-34							
115			S-SYSTEM (POS21)			C-SYSTEM (POS21)			00	00-34							
116			S-SYSTEM (POS22)			C-SYSTEM (POS22)			00	00-34							
117			S-SYSTEM (POS23)			C-SYSTEM (POS23)			00	00-34							
118			S-SYSTEM (POS24)			C-SYSTEM (POS24)			00	00-34							
119			S-SYSTEM (POS25)			C-SYSTEM (POS25)			00	00-34							
11A			S-SYSTEM (POS26)			C-SYSTEM (POS26)			00	00-34							
11B			S-SYSTEM (POS27)			C-SYSTEM (POS27)			00	00-34							
11C			S-SYSTEM (POS28)			C-SYSTEM (POS28)			00	00-34							
11D			S-SYSTEM (POS29)			C-SYSTEM (POS29)			00	00-34							
11E			S-SYSTEM (POS30)			C-SYSTEM (POS30)			00	00-34							
11F			S-SYSTEM (POS31)			C-SYSTEM (POS31)			00	00-34							
120			S-SYSTEM (POS32)			C-SYSTEM (POS32)			00	00-34							
121			S-SYSTEM (POS33)			C-SYSTEM (POS33)			00	00-34							
122			S-SYSTEM (POS34)			C-SYSTEM (POS34)			00	00-34							
123			S-SYSTEM (POS35)			C-SYSTEM (POS35)			00	00-34							
124			S-SYSTEM (POS36)			C-SYSTEM (POS36)			00	00-34							
125			S-SYSTEM (POS37)			C-SYSTEM (POS37)			00	00-34							
126			S-SYSTEM (POS38)			C-SYSTEM (POS38)			00	00-34							
127			S-SYSTEM (POS39)			C-SYSTEM (POS39)			00	00-34							
128			S-SYSTEM (POS40)			C-SYSTEM (POS40)			00	00-34							
129			S-SYSTEM (POS41)			C-SYSTEM (POS41)			00	00-34							
12A			S-SYSTEM (POS42)			C-SYSTEM (POS42)			00	00-34							
12B			S-SYSTEM (POS43)			C-SYSTEM (POS43)			00	00-34							
12C			S-SYSTEM (POS44)			C-SYSTEM (POS44)			00	00-34							
12D			S-SYSTEM (POS45)			C-SYSTEM (POS45)			00	00-34							
12E			S-SYSTEM (POS46)			C-SYSTEM (POS46)			00	00-34							
12F			S-SYSTEM (POS47)			C-SYSTEM (POS47)			00	00-34							
130			S-SYSTEM (POS48)			C-SYSTEM (POS48)			00	00-34							
131			S-SYSTEM (POS49)			C-SYSTEM (POS49)			00	00-34							
132			S-SYSTEM (POS50)			C-SYSTEM (POS50)			00	00-34							
133			S-SYSTEM (POS51)			C-SYSTEM (POS51)			00	00-34							
134			S-SYSTEM (POS52)			C-SYSTEM (POS52)			00	00-34							
135			S-SYSTEM (POS53)			C-SYSTEM (POS53)			00	00-34							
136			S-SYSTEM (POS54)			C-SYSTEM (POS54)			00	00-34							
137			S-SYSTEM (POS55)			C-SYSTEM (POS55)			00	00-34							
138			S-SYSTEM (POS56)			C-SYSTEM (POS56)			00	00-34							
139			S-SYSTEM (POS57)			C-SYSTEM (POS57)			00	00-34							
13A			S-SYSTEM (POS58)			C-SYSTEM (POS58)			00	00-34							
13B			S-SYSTEM (POS59)			C-SYSTEM (POS59)			00	00-34							
13C			S-SYSTEM (POS60)			C-SYSTEM (POS60)			00	00-34							
13D			S-SYSTEM (POS61)			C-SYSTEM (POS61)			00	00-34							
13E			S-SYSTEM (POS62)			C-SYSTEM (POS62)			00	00-34							
13F			S-SYSTEM (POS63)			C-SYSTEM (POS63)			00	00-34							
MODEL									MODEL								
LETTER NO.									LETTER NO.								

MEMORY MAP (Continued)

SLAVE ADDRESS : A0(00-FF) A2(100-1FF) A4(200-2FF) A6(300-3FF)

ADDRESS	DATA								MICON	EEPROM	EEPROM	CHASSIS		CTV FINAL		LAST INITIAL	REMARK
(HEX)	D7	D6	D5	D4	D3	D2	D1	D0	DEFAULT	RANGE	WRITE(CPU)	CHECK DATA	CHECK TYPE	CHECK DATA	CHECK TYPE	SETTING DATA	
140			S-SYSTEM (POS64)			C-SYSTEM (POS64)			00	00-34							
141			S-SYSTEM (POS65)			C-SYSTEM (POS65)			00	00-34							
142			S-SYSTEM (POS66)			C-SYSTEM (POS66)			00	00-34							
143			S-SYSTEM (POS67)			C-SYSTEM (POS67)			00	00-34							
144			S-SYSTEM (POS68)			C-SYSTEM (POS68)			00	00-34							
145			S-SYSTEM (POS69)			C-SYSTEM (POS69)			00	00-34							
146			S-SYSTEM (POS70)			C-SYSTEM (POS70)			00	00-34							
147			S-SYSTEM (POS71)			C-SYSTEM POS71)			00	00-34							
148			S-SYSTEM (POS72)			C-SYSTEM (POS72)			00	00-34							
149			S-SYSTEM (POS73)			C-SYSTEM (POS73)			00	00-34							
14A			S-SYSTEM (POS74)			C-SYSTEM (POS74)			00	00-34							
14B			S-SYSTEM (POS75)			C-SYSTEM (POS75)			00	00-34							
14C			S-SYSTEM (POS76)			C-SYSTEM (POS76)			00	00-34							
14D			S-SYSTEM (POS77)			C-SYSTEM (POS77)			00	00-34							
14E			S-SYSTEM (POS78)			C-SYSTEM (POS78)			00	00-34							
14F			S-SYSTEM (POS79)			C-SYSTEM (POS79)			00	00-34							
150			S-SYSTEM (POS80)			C-SYSTEM (POS80)			00	00-34							
151			S-SYSTEM (POS81)			C-SYSTEM (POS81)			00	00-34							
152			S-SYSTEM (POS82)			C-SYSTEM (POS82)			00	00-34							
153			S-SYSTEM (POS83)			C-SYSTEM (POS83)			00	00-34							
154			S-SYSTEM (POS84)			C-SYSTEM (POS84)			00	00-34							
155			S-SYSTEM (POS85)			C-SYSTEM (POS85)			00	00-34							
156			S-SYSTEM (POS86)			C-SYSTEM (POS86)			00	00-34							
157			S-SYSTEM (POS87)			C-SYSTEM (POS87)			00	00-34							
158			S-SYSTEM (POS88)			C-SYSTEM (POS88)			00	00-34							
159			S-SYSTEM (POS89)			C-SYSTEM (POS89)			00	00-34							
15A			S-SYSTEM (POS90)			C-SYSTEM (POS90)			00	00-34							
15B			S-SYSTEM (POS91)			C-SYSTEM (POS91)			00	00-34							
15C			S-SYSTEM (POS92)			C-SYSTEM (POS92)			00	00-34							
15D			S-SYSTEM (POS93)			C-SYSTEM (POS93)			00	00-34							
15E			S-SYSTEM (POS94)			C-SYSTEM (POS94)			00	00-34							
15F			S-SYSTEM (POS95)			C-SYSTEM (POS95)			00	00-34							
160			S-SYSTEM (POS96)			C-SYSTEM (POS96)			00	00-34							
161			S-SYSTEM (POS97)			C-SYSTEM (POS97)			00	00-34							
162			S-SYSTEM (POS98)			C-SYSTEM (POS98)			00	00-34							
163			S-SYSTEM (POS99)			C-SYSTEM (POS99)			00	00-34							
164		C-SYSTEM (AV2)				C-SYSTEM (AV1)			00	00-44							
165																	
166																	(2) Remove SLV1~SLV6 to Sheet EEPROM MAP08(1C0H~1CBH)
167																	
168																	
169																	
16A																	
16B																	
16C																	
16D																	
16E																	
16F																	
170																	
171																	
172																	
173							TV/AV		00	0(TV), 1(AV1), 2(AV2)							
174		LAST CHANNEL POSITION							01	00-63							
175	FLASH BACK POSITION								01	00-FF							
176	ROM CORRECTION-1 ID									00-FF							
177	ROM CORRECTION-1 HIGH BYTE ADDRESS									00-FF							
178	ROM CORRECTION-1 LOW BYTE ADDRESS									00-FF							
179	ROM CORRECTION-1 DATA LENGTH									00-FF							
17A	ROM CORRECTION-1 CHECKSUM									00-FF							
17B	ROM CORRECTION-2 ID									00-FF							
17C	ROM CORRECTION-2 HIGH BYTE ADDRESS									00-FF							
17D	ROM CORRECTION-2 LOW BYTE ADDRESS									00-FF							
17E	ROM CORRECTION-2 DATA LENGTH									00-FF							
17F	ROM CORRECTION-2 CHECKSUM									00-FF							
MODEL									MODEL								
LETTER NO.									LETTER NO.								

MEMORY MAP (Continued)

SLAVE ADDRESS : A0(00-FF) A2(100-1FF) A4(200-2FF) A6(300-3FF)

ADDRESS	DATA								MICON	EEPROM	EEPROM	CHASSIS		CTV FINAL		LAST INITIAL	REMARK
(HEX)	D7	D6	D5	D4	D3	D2	D1	D0	DEFAULT	RANGE	WRITE(CPU)	CHECK DATA	CHECK TYPE	CHECK DATA	CHECK TYPE	SETTING DATA	
180	ROM CORRECTION-1 CODE									00-FF							
181	ROM CORRECTION-1 CODE									00-FF							
182	ROM CORRECTION-1 CODE									00-FF							
183	ROM CORRECTION-1 CODE									00-FF							
184	ROM CORRECTION-1 CODE									00-FF							
185	ROM CORRECTION-1 CODE									00-FF							
186	ROM CORRECTION-1 CODE									00-FF							
187	ROM CORRECTION-1 CODE									00-FF							
188	ROM CORRECTION-1 CODE									00-FF							
189	ROM CORRECTION-1 CODE									00-FF							
18A	ROM CORRECTION-1 CODE									00-FF							
18B	ROM CORRECTION-1 CODE									00-FF							
18C	ROM CORRECTION-1 CODE									00-FF							
18D	ROM CORRECTION-1 CODE									00-FF							
18E	ROM CORRECTION-1 CODE									00-FF							
18F	ROM CORRECTION-1 CODE									00-FF							
190	ROM CORRECTION-1 CODE									00-FF							
191	ROM CORRECTION-1 CODE									00-FF							
192	ROM CORRECTION-1 CODE									00-FF							
193	ROM CORRECTION-1 CODE									00-FF							
194	ROM CORRECTION-1 CODE									00-FF							
195	ROM CORRECTION-1 CODE									00-FF							
196	ROM CORRECTION-1 CODE									00-FF							
197	ROM CORRECTION-1 CODE									00-FF							
198	ROM CORRECTION-1 CODE									00-FF							
199	ROM CORRECTION-1 CODE									00-FF							
19A	ROM CORRECTION-1 CODE									00-FF							
19B	ROM CORRECTION-1 CODE									00-FF							
19C	ROM CORRECTION-1 CODE									00-FF							
19D	ROM CORRECTION-1 CODE									00-FF							
19E	ROM CORRECTION-1 CODE									00-FF							
19F	ROM CORRECTION-1 CODE									00-FF							
1A0	ROM CORRECTION-2 CODE									00-FF							
1A1	ROM CORRECTION-2 CODE									00-FF							
1A2	ROM CORRECTION-2 CODE									00-FF							
1A3	ROM CORRECTION-2 CODE									00-FF							
1A4	ROM CORRECTION-2 CODE									00-FF							
1A5	ROM CORRECTION-2 CODE									00-FF							
1A6	ROM CORRECTION-2 CODE									00-FF							
1A7	ROM CORRECTION-2 CODE									00-FF							
1A8	ROM CORRECTION-2 CODE									00-FF							
1A9	ROM CORRECTION-2 CODE									00-FF							
1AA	ROM CORRECTION-2 CODE									00-FF							
1AB	ROM CORRECTION-2 CODE									00-FF							
1AC	ROM CORRECTION-2 CODE									00-FF							
1AD	ROM CORRECTION-2 CODE									00-FF							
1AE	ROM CORRECTION-2 CODE									00-FF							
1AF	ROM CORRECTION-2 CODE									00-FF							
1B0	ROM CORRECTION-2 CODE									00-FF							
1B1	ROM CORRECTION-2 CODE									00-FF							
1B2	ROM CORRECTION-2 CODE									00-FF							
1B3	ROM CORRECTION-2 CODE									00-FF							
1B4	ROM CORRECTION-2 CODE									00-FF							
1B5	ROM CORRECTION-2 CODE									00-FF							
1B6	ROM CORRECTION-2 CODE									00-FF							
1B7	ROM CORRECTION-2 CODE									00-FF							
1B8	ROM CORRECTION-2 CODE									00-FF							
1B9	ROM CORRECTION-2 CODE									00-FF							
1BA	ROM CORRECTION-2 CODE									00-FF							
1BB	ROM CORRECTION-2 CODE									00-FF							
1BC	ROM CORRECTION-2 CODE									00-FF							
1BD	ROM CORRECTION-2 CODE									00-FF							
1BE	ROM CORRECTION-2 CODE									00-FF							
1BF	ROM CORRECTION-2 CODE									00-FF							

MODEL							MODEL						
LETTER NO.							LETTER NO.						

MEMORY MAP (Continued)

SLAVE ADDRESS : A0(00-FF) A2(100-1FF) A4(200-2FF) A6(300-3FF)

ADDRESS	DATA								MICON	EEPROM	EEPROM	CHASSIS		CTV FINAL		LAST INITIAL	REMARK
(HEX)	D7	D6	D5	D4	D3	D2	D1	D0	DEFAULT	RANGE	WRITE(CPU)	CHECK DATA	CHECK TYPE	CHECK DATA	CHECK TYPE	SETTING DATA	
1C0	SLV1 (HIGH)								00	00-FF							(2) Remove from Sheet EEPROM MAP06(166H~171H)
1C1	SLV1 (LOW)								00	00-FF							
1C2	SLV2 (HIGH)								00	00-FF							
1C3	SLV2 (LOW)								00	00-FF							
1C4	SLV3 (HIGH)								00	00-FF							
1C5	SLV3 (LOW)								00	00-FF							
1C6	SLV4 (HIGH)								00	00-FF							
1C7	SLV4 (LOW)								00	00-FF							
1C8	SLV5 (HIGH)								00	00-FF							
1C9	SLV5 (LOW)								00	00-FF							
1CA	SLV6 (HIGH)								00	00-FF							
1CB	SLV6 (LOW)								00	00-FF							
1CC	SLV7 (HIGH)								00	00-FF							(2) Add SLV7 for S-BOOSTER.
1CD	SLV7 (LOW)								00	00-FF							
1CE																	
1CF																	
1D0																	
1D1																	
1D2																	
1D3																	
1D4																	
1D5																	
1D6																	
1D7																	
1D8																	
1D9																	
1DA																	
1DB																	
1DC																	
1DD																	
1DE																	
1DF																	
1E0																	
1E1																	
1E2																	
1E3																	
1E4																	
1E5																	
1E6																	
1E7																	
1E8																	
1E9																	
1EA																	
1EB																	
1EC																	
1ED																	
1EE																	
1EF																	
1F0																	
1F1																	
1F2																	
1F3																	
1F4																	
1F5																	
1F6																	
1F7																	
1F8																	
1F9																	
1FA																	
1FB																	
1FC																	
1FD																	
1FE																	
1FF																	
MODEL									MODEL								
LETTER NO.									LETTER NO.								

MEMORY MAP (Continued)

SLAVE ADDRESS : A0(00-FF) A2(100-1FF) A4(200-2FF) A6(300-3FF)

ADDRESS	DATA								MICON	EEPROM	EEPROM	CHASSIS		CTV FINAL		LAST INITIAL	
(HEX)	D7	D6	D5	D4	D3	D2	D1	D0	DEFAULT	RANGE	WRITE(CPU)	CHECK DATA	CHECK TYPE	CHECK DATA	CHECK TYPE	SETTING DATA	REMARK
200		R-DRIVE (V00)							3F	00-7F							
201		B-DRIVE (V00)							3F	00-7F							
202	R-CUTOFF (V00)								7F	00-FF							
203	G-CUTOFF (V00)								7F	00-FF							
204	B-CUTOFF (V00)								7F	00-FF							
205		RF-AGC (V01)							32	00-7F							
206			VIF-VCO (V02)						1F	00-3F							
207						H-VCO (V03)			03	00-07							
208		SUB CONTRAST (V04)							64	00-7F							
209		SUB COLOUR (V05)							3F	00-7F							
20A	SUB BRIGHTNESS (V06)								7F	00-FF							
20B		SUB TINT (V07)							3F	00-7F							
20C			SUB SHARPNESS (V08)						2B	00-3F							
20D		SUB-COLOUR-YUV (V09)							5A	00-7F							
20E		SUB-TINT-YUV (V10)							3F	00-7F							
20F			V-SIZE-50Hz (V11)						26	00-3F							
210						V-SHIFT-50Hz (V12)			03	00-07							
211				H-SHIFT-50Hz (V13)					09	00-1F							
212			SECAM BR (V14)						25	00-3F							
213			SECAM BB (V15)						16	00-3F							
214			SUB VOLUME (V16)						3C	00-3C							
215			V-SIZE-60Hz (V17)						1F	00-3E							
216					V-SHIFT-60Hz (V18)				06	00-0E							
217				H-SHIFT-60Hz (V19)					11	00-1E							
218					S-TRAP-BG (V20)				07	00-0F							
219					S-TRAP-I (V21)				07	00-0F							
21A					S-TRAP-DK (V22)				07	00-0F							
21B					S-TRAP-M (V23)				07	00-0F							
21C					S-TRAP-574 (V24)				07	00-0F							
21D																	
21E																	
21F																	
220																	
221																	
222																	
223																	
224																	
225																	
226																	
227																	
228																	
229																	
22A																	
22B																	
22C																	
22D																	
22E																	
22F																	
230		S-OUT-LEVEL (F11)							5F	00-7F							
231						VIF-G (F12)			04	00-07							
232						YDL (F18)			05	00-07							
233						YDL-PAL (F19)			05	00-07							
234						YDL-SECAM (F20)			07	00-07							
235						YDL-N443 (F21)			05	00-07							
236						YDL-N358 (F22)			05	00-07							
237						YDL-AV (F23)			06	00-07							
238						YDL-AV-PAL (F24)			06	00-07							
239						YDL-AV-SECAM (F25)			07	00-07							
23A						YDL-AV-N443 (F26)			06	00-07							
23B						YDL-AV-N358 (F27)			06	00-07							
23C						YDL-YUV (F28)			06	00-07							
23D			COLOUR-AV (F29)						29	00-3E							
23E			COLOUR-PAL (F30)						1F	00-3E							
23F			COLOUR-SECAM (F31)						28	00-3E							

MODEL							MODEL						
LETTER NO.							LETTER NO.						

MEMORY MAP (Continued)

SLAVE ADDRESS : A0(00-FF) A2(100-1FF) A4(200-2FF) A6(300-3FF)

ADDRESS	DATA								MICON	EEPROM	EEPROM	CHASSIS		CTV FINAL		LAST INITIAL	REMARK
(HEX)	D7	D6	D5	D4	D3	D2	D1	D0	DEFAULT	RANGE	WRITE(CPU)	CHECK DATA	CHECK TYPE	CHECK DATA	CHECK TYPE	SETTING DATA	
240			COLOUR-N443 (F32)						17	00-3E							
241			COLOUR-N358 (F33)						18	00-3E							
242			COLUR-ADJ (F34)						1F	00-3E							
243			SHARPNESS-AV (F35)						24	00-3E							
244			SHARPNESS-YUV (F36)						1F	00-3E							
245			SHARPNESS-PAL (F37)						1F	00-3E							
246			SHARPNESS-SECAM (F38)						1A	00-3E							
247			SHARPNESS-N443 (F39)						1F	00-3E							
248			SHARPNESS-N358 (F40)						1F	00-3E							
249		TINT-AV (F41)							3F	00-7E							
24A		TINT-ADJ (F42)							3F	00-7E							
24B		TINT-YUV-ADJ (F43)							3F	00-7E							
24C		R-R DRIVE (F44)							47	00-7E							
24D		B-R DRIVE (F45)							35	00-7E							
24E		R-B DRIVE (F46)							3C	00-7E							
24F		B-B DRIVE (F47)							4F	00-7E							
250							TRAP (F53)		02	00-03							
251							TRAP-PAL (F54)		02	00-03							
252							TRAP-SECAM (F55)		02	00-03							
253							TRAP-N443 (F56)		02	00-03							
254							TRAP-N358 (F57)		02	00-03							
255							GAMMA (F62)		00	00-03							
256					BS-D/C (F63)				0A	00-0F							
257						SL-TV (F66)			02	00-07							
258						SL-AV (F67)			04	00-07							
259						SL-YUV (F68)			04	00-07							
25A					VD2/VD1/AS/FBP-TV (F69)				06	00-0F							
25B					VD2/VD1/AS/FBP-AV (F70)				0E	00-0F							
25C					VD2/VD1/AS/FBP-YUV (F71)				0E	00-0F							
25D							VDL (F72)		00	00-03							
25E							UDL (F73)		00	00-03							
25F							AUTO-SCM-KIL-TV (F74)		01	00-03							
260							SECAM-BGP (F76)		00	00-03							
261			TXT-POS-H (F80)						1E	00-3F							
262			TXT-POS-V (F81)						22	00-3F							
263		OSD-POS (F82)							09	00-7F							
264						SUB-BASS (F85)			06	00-07							
265						SUB-TREBLE (F86)			00	00-07							
266						AGC-ADJ (F87)			00	00-04							
267				AGC-GAIN-ADJUST (F89)					10	00-1F							(1) Change default value 00 to 10.
268				FM-LEVEL-ADJUST (F90)					0F	00-1E							
269				IGR-LEVEL-ADJUST (F91)					10	00-1E							
26A				NICAM-BG-LEVEL-ADJUST (F92)					0D	00-1E							
26B				NICAM-I-LEVEL-ADJUST (F93)					12	00-1E							
26C				NICAM-DK-LEVEL-ADJUST (F94)					0E	00-1E							
26D	NICAM-LOWER-ERROR-LIMIT (F95)								23	00-FF							
26E	NICAM-UPPER-ERROR-LIMIT (F96)								46	00-FF							
26F					IGR-GAIN-ADJUST (F97)				06	00-0D							
270							FM-ID-SPEED (F98)		01	00-03							
271							AUTO-SCM-KIL-AV-YUV (F101)		01	00-03							
272							AFC1-GAIN-TV (F102)		00	00-03							
273							AFC1-GAIN-AV (F103)		03	00-03							
274							AFC1-GAIN-YUV (F104)		03	00-03							
275							CON-REDUCE (F105)		00	00-02							
276	STANDBY-WO-BRIGHT (F110)								FF	00-FF							
277	AC-FAIL-WO-BRIGHT (F111)								FF	00-FF							
278							FORCED-SCM-KIL-TV (F112)		02	00-03							
279							FORCED-SCM-KIL-AV-YUV (F113)		02	00-03							
27A	VIDEO-DEMUTE-DELAY (F115)								00	00-FF							(1) New Item F115.
27B	SOUND-DEMUTE-DELAY (F116)								00	00-FF							(1) New Item F116.
27C																	
27D																	
27E																	
27F																	
MODEL									MODEL								
LETTER NO.									LETTER NO.								

MEMORY MAP (Continued)

SLAVE ADDRESS : A0(00-FF) A2(100-1FF) A4(200-2FF) A6(300-3FF)

ADDRESS	DATA								MICON	EEPROM	EEPROM	CHASSIS		CTV FINAL		LAST INITIAL	REMARK
(HEX)	D7	D6	D5	D4	D3	D2	D1	D0	DEFAULT	RANGE	WRITE(CPU)	CHECK DATA	CHECK TYPE	CHECK DATA	CHECK TYPE	SETTING DATA	
280	BS OFF (F08)	RGB CLIP (F07)	C.CLIP-LVL (F06)	STrapQ-574 (F05)	STrapQ-M (F04)	STrapQ-DK (F03)	STrapQ-I (F02)	STrapQ-BG (F01)	00	00-FF							
281	Ana-OSD (F100)	ABCL-G (F10)	ABCL (F09)	SHP-G-N3 (F17)	SHP-G-N4 (F16)	SHP-G-SCM (F15)	SHP-G-PAL (F14)	SHP-G (F13)	10	00-FF							
282	V-FREE (F60)	1W-AV (F59)	1W-TV (F58)	DT-N3 (F52)	DT-N4 (F51)	DT-S (F50)	DT-P (F49)	DT (F48)	44	00-FF							
283	PLL-CP (F83)	DL-Vout (F79)	DL-REV (F78)	N45 (F77)	SCM-YDL (F75)	OM DET (F65)	BS GAIN (F64)	AFC2 (F61)	80	00-FF							
284	AV2 (O11)	AV (O10)	Forced-Col (O08)	N358-TV (O07)	N443-TV (O06)	SECAM (O05)	VIF (O04)	HOTEL (O01)	DE	00-FF							
285	LED-CONT (O21)	R/C MENU (O20)	BIL (O17)	TEXT (O16)	A2 (O15)	NICAM (O14)	S-CTR (O13)	YUV (O12)	03	00-FF							
286					M (O09)	D/K (O09)	I (O09)	B/G (O09)	0F	01-0F							
287			Arabic (O18)	Malay (O18)	Russian (O18)	France (O18)	Chinese (O18)	Engilish (O18)	3F	01-3F							
288						SEARCH SPEED (O19)			03	01-05							
289	HOTEL CHANNEL POSITION (O02)								FF	00-63, FF							
28A	HOTEL VOLUME (O03)								FF	00-3C, FF							
28B						NICAM-AUTO-MUTE (F99)	AGC-SW-OFF (F88)	SMALL-SURR (F84)	02	00-07							(1) Change default value 00 to 02.
28C			Pow-Storage (F127)	R-Y Adj. (F114)	C-ANGLE (F109)	TAKE-OFF-YUV (F108)	TAKE-OFF-AV (F107)	TAKE-OFF-TV (F106)	09	00-3F							(1) Added R-Y Adj. (2) Add Pow-Storage
28D							Sharp-logo (O23)	S-Booster (O22)	00	00-03							(2) Add Sharp-logo and S-Booster.
28E	MER (F117)								46	00-FF							(2) Add MER
28F	MEL1 (F118)								96	00-FF							(2) Add MEL1
290	MEL2 (F119)								9C	00-FF							(2) Add MEL2
291	MEL3 (F120)								A3	00-FF							(2) Add MEL3
292	MEL4 (F121)								A5	00-FF							(2) Add MEL4
293	MEL5 (F122)								AA	00-FF							(2) Add MEL5
294	MEL6 (F123)								B4	00-FF							(2) Add MEL6
295			S-Start Point (F124)						15	00-3C							(2) Add S-Start Point
296			S-Stop Point (F125)						3C	00-3C							(2) Add S-Stop Point
297			S-Step (F126)						07	00-3C							(2) Add S-Step
298			S-B-BASS (F128)						2D	00-3C							(2) Add S-B-BASS
299			S-B-TREB (F129)						2D	00-3C							(2) Add S-B-TREB
29A			S-BASS (F130)						3C	00-3C							(2) Add S-BASS
29B			S-TREB (F131)						3C	00-3C							(2) Add S-TREB
29C																	
29D																	
29E																	
29F																	
2A0																	
2A1																	
2A2																	
2A3																	
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2AA																	
2AB																	
2AC																	
2AD																	
2AE																	
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2B0																	
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2B5																	
2B6																	
2B7																	
2B8																	
2B9																	
2BA																	
2BB																	
2BC																	
2BD																	
2BE																	
2BF																	
MODEL									MODEL								
LETTER NO.									LETTER NO.								

MEMORY MAP (Continued)

SLAVE ADDRESS : A0(00-FF) A2(100-1FF) A4(200-2FF) A6(300-3FF)

ADDRESS	DATA								MICON	EEPROM	EEPROM	CHASSIS		CTV FINAL		LAST INITIAL	REMARK
(HEX)	D7	D6	D5	D4	D3	D2	D1	D0	DEFAULT	RANGE	WRITE(CPU)	CHECK DATA	CHECK TYPE	CHECK DATA	CHECK TYPE	SETTING DATA	
2C0																	
2C1																	
2C2																	
2C3																	
2C4																	
2C5																	
2C6																	
2C7																	
2C8																	
2C9																	
2CA																	
2CB																	
2CC																	
2CD																	
2CE																	
2CF																	
2D0																	
2D1																	
2D2																	
2D3																	
2D4																	
2D5																	
2D6																	
2D7																	
2D8																	
2D9																	
2DA																	
2DB																	
2DC																	
2DD																	
2DE																	
2DF																	
2E0																	
2E1																	
2E2																	
2E3																	
2E4																	
2E5																	
2E6																	
2E7																	
2E8																	
2E9																	
2EA																	
2EB																	
2EC																	
2ED																	
2EE																	
2EF																	
2F0																	
2F1																	
2F2																	
2F3																	
2F4																	
2F5																	
2F6																	
2F7																	
2F8																	
2F9																	
2FA																	
2FB																	
2FC																	
2FD																	
2FE																	
2FF																	
MODEL									MODEL								
LETTER NO.									LETTER NO.								

*1 0 : individually selectable rating system 1 : threshold selectable rating system

*2 0 : CATEGORY bit mask with (01,05) 1st character 1 : CATEGORY bit mask with (01,05) 2nd character

MEMORY MAP (Continued)

SLAVE ADDRESS : A0(00-FF) A2(100-1FF) A4(200-2FF) A6(300-3FF)

ADDRESS	DATA								MICON	EEPROM	EEPROM	CHASSIS		CTV FINAL		LAST INITIAL	
(HEX)	D7	D6	D5	D4	D3	D2	D1	D0	DEFAULT	RANGE	WRITE(CPU)	CHECK DATA	CHECK TYPE	CHECK DATA	CHECK TYPE	SETTING DATA	REMARK
300	A2 FM	A2 ST	A2 BIL1	NCM FM	NCM MONO	NCM ST	NCM BIL2	NCM BIL1	4C	00-FF							POS 0
301	A2 FM	A2 ST	A2 BIL1	NCM FM	NCM MONO	NCM ST	NCM BIL2	NCM BIL1	4C	00-FF							POS 1
302	A2 FM	A2 ST	A2 BIL1	NCM FM	NCM MONO	NCM ST	NCM BIL2	NCM BIL1	4C	00-FF							POS 2
303	A2 FM	A2 ST	A2 BIL1	NCM FM	NCM MONO	NCM ST	NCM BIL2	NCM BIL1	4C	00-FF							POS 3
304	A2 FM	A2 ST	A2 BIL1	NCM FM	NCM MONO	NCM ST	NCM BIL2	NCM BIL1	4C	00-FF							POS 4
305	A2 FM	A2 ST	A2 BIL1	NCM FM	NCM MONO	NCM ST	NCM BIL2	NCM BIL1	4C	00-FF							POS 5
306	A2 FM	A2 ST	A2 BIL1	NCM FM	NCM MONO	NCM ST	NCM BIL2	NCM BIL1	4C	00-FF							POS 6
307	A2 FM	A2 ST	A2 BIL1	NCM FM	NCM MONO	NCM ST	NCM BIL2	NCM BIL1	4C	00-FF							POS 7
308	A2 FM	A2 ST	A2 BIL1	NCM FM	NCM MONO	NCM ST	NCM BIL2	NCM BIL1	4C	00-FF							POS 8
309	A2 FM	A2 ST	A2 BIL1	NCM FM	NCM MONO	NCM ST	NCM BIL2	NCM BIL1	4C	00-FF							POS 9
30A	A2 FM	A2 ST	A2 BIL1	NCM FM	NCM MONO	NCM ST	NCM BIL2	NCM BIL1	4C	00-FF							POS 10
30B	A2 FM	A2 ST	A2 BIL1	NCM FM	NCM MONO	NCM ST	NCM BIL2	NCM BIL1	4C	00-FF							POS 11
30C	A2 FM	A2 ST	A2 BIL1	NCM FM	NCM MONO	NCM ST	NCM BIL2	NCM BIL1	4C	00-FF							POS 12
30D	A2 FM	A2 ST	A2 BIL1	NCM FM	NCM MONO	NCM ST	NCM BIL2	NCM BIL1	4C	00-FF							POS 13
30E	A2 FM	A2 ST	A2 BIL1	NCM FM	NCM MONO	NCM ST	NCM BIL2	NCM BIL1	4C	00-FF							POS 14
30F	A2 FM	A2 ST	A2 BIL1	NCM FM	NCM MONO	NCM ST	NCM BIL2	NCM BIL1	4C	00-FF							POS 15
310	A2 FM	A2 ST	A2 BIL1	NCM FM	NCM MONO	NCM ST	NCM BIL2	NCM BIL1	4C	00-FF							POS 16
311	A2 FM	A2 ST	A2 BIL1	NCM FM	NCM MONO	NCM ST	NCM BIL2	NCM BIL1	4C	00-FF							POS 17
312	A2 FM	A2 ST	A2 BIL1	NCM FM	NCM MONO	NCM ST	NCM BIL2	NCM BIL1	4C	00-FF							POS 18
313	A2 FM	A2 ST	A2 BIL1	NCM FM	NCM MONO	NCM ST	NCM BIL2	NCM BIL1	4C	00-FF							POS 19
314	A2 FM	A2 ST	A2 BIL1	NCM FM	NCM MONO	NCM ST	NCM BIL2	NCM BIL1	4C	00-FF							POS 20
315	A2 FM	A2 ST	A2 BIL1	NCM FM	NCM MONO	NCM ST	NCM BIL2	NCM BIL1	4C	00-FF							POS 21
316	A2 FM	A2 ST	A2 BIL1	NCM FM	NCM MONO	NCM ST	NCM BIL2	NCM BIL1	4C	00-FF							POS 22
317	A2 FM	A2 ST	A2 BIL1	NCM FM	NCM MONO	NCM ST	NCM BIL2	NCM BIL1	4C	00-FF							POS 23
318	A2 FM	A2 ST	A2 BIL1	NCM FM	NCM MONO	NCM ST	NCM BIL2	NCM BIL1	4C	00-FF							POS 24
319	A2 FM	A2 ST	A2 BIL1	NCM FM	NCM MONO	NCM ST	NCM BIL2	NCM BIL1	4C	00-FF							POS 25
31A	A2 FM	A2 ST	A2 BIL1	NCM FM	NCM MONO	NCM ST	NCM BIL2	NCM BIL1	4C	00-FF							POS 26
31B	A2 FM	A2 ST	A2 BIL1	NCM FM	NCM MONO	NCM ST	NCM BIL2	NCM BIL1	4C	00-FF							POS 27
31C	A2 FM	A2 ST	A2 BIL1	NCM FM	NCM MONO	NCM ST	NCM BIL2	NCM BIL1	4C	00-FF							POS 28
31D	A2 FM	A2 ST	A2 BIL1	NCM FM	NCM MONO	NCM ST	NCM BIL2	NCM BIL1	4C	00-FF							POS 29
31E	A2 FM	A2 ST	A2 BIL1	NCM FM	NCM MONO	NCM ST	NCM BIL2	NCM BIL1	4C	00-FF							POS 30
31F	A2 FM	A2 ST	A2 BIL1	NCM FM	NCM MONO	NCM ST	NCM BIL2	NCM BIL1	4C	00-FF							POS 31
320	A2 FM	A2 ST	A2 BIL1	NCM FM	NCM MONO	NCM ST	NCM BIL2	NCM BIL1	4C	00-FF							POS 32
321	A2 FM	A2 ST	A2 BIL1	NCM FM	NCM MONO	NCM ST	NCM BIL2	NCM BIL1	4C	00-FF							POS 33
322	A2 FM	A2 ST	A2 BIL1	NCM FM	NCM MONO	NCM ST	NCM BIL2	NCM BIL1	4C	00-FF							POS 34
323	A2 FM	A2 ST	A2 BIL1	NCM FM	NCM MONO	NCM ST	NCM BIL2	NCM BIL1	4C	00-FF							POS 35
324	A2 FM	A2 ST	A2 BIL1	NCM FM	NCM MONO	NCM ST	NCM BIL2	NCM BIL1	4C	00-FF							POS 36
325	A2 FM	A2 ST	A2 BIL1	NCM FM	NCM MONO	NCM ST	NCM BIL2	NCM BIL1	4C	00-FF							POS 37
326	A2 FM	A2 ST	A2 BIL1	NCM FM	NCM MONO	NCM ST	NCM BIL2	NCM BIL1	4C	00-FF							POS 38
327	A2 FM	A2 ST	A2 BIL1	NCM FM	NCM MONO	NCM ST	NCM BIL2	NCM BIL1	4C	00-FF							POS 39
328	A2 FM	A2 ST	A2 BIL1	NCM FM	NCM MONO	NCM ST	NCM BIL2	NCM BIL1	4C	00-FF							POS 40
329	A2 FM	A2 ST	A2 BIL1	NCM FM	NCM MONO	NCM ST	NCM BIL2	NCM BIL1	4C	00-FF							POS 41
32A	A2 FM	A2 ST	A2 BIL1	NCM FM	NCM MONO	NCM ST	NCM BIL2	NCM BIL1	4C	00-FF							POS 42
32B	A2 FM	A2 ST	A2 BIL1	NCM FM	NCM MONO	NCM ST	NCM BIL2	NCM BIL1	4C	00-FF							POS 43
32C	A2 FM	A2 ST	A2 BIL1	NCM FM	NCM MONO	NCM ST	NCM BIL2	NCM BIL1	4C	00-FF							POS 44
32D	A2 FM	A2 ST	A2 BIL1	NCM FM	NCM MONO	NCM ST	NCM BIL2	NCM BIL1	4C	00-FF							POS 45
32E	A2 FM	A2 ST	A2 BIL1	NCM FM	NCM MONO	NCM ST	NCM BIL2	NCM BIL1	4C	00-FF							POS 46
32F	A2 FM	A2 ST	A2 BIL1	NCM FM	NCM MONO	NCM ST	NCM BIL2	NCM BIL1	4C	00-FF							POS 47
330	A2 FM	A2 ST	A2 BIL1	NCM FM	NCM MONO	NCM ST	NCM BIL2	NCM BIL1	4C	00-FF							POS 48
331	A2 FM	A2 ST	A2 BIL1	NCM FM	NCM MONO	NCM ST	NCM BIL2	NCM BIL1	4C	00-FF							POS 49
332	A2 FM	A2 ST	A2 BIL1	NCM FM	NCM MONO	NCM ST	NCM BIL2	NCM BIL1	4C	00-FF							POS 50
333	A2 FM	A2 ST	A2 BIL1	NCM FM	NCM MONO	NCM ST	NCM BIL2	NCM BIL1	4C	00-FF							POS 51
334	A2 FM	A2 ST	A2 BIL1	NCM FM	NCM MONO	NCM ST	NCM BIL2	NCM BIL1	4C	00-FF							POS 52
335	A2 FM	A2 ST	A2 BIL1	NCM FM	NCM MONO	NCM ST	NCM BIL2	NCM BIL1	4C	00-FF							POS 53
336	A2 FM	A2 ST	A2 BIL1	NCM FM	NCM MONO	NCM ST	NCM BIL2	NCM BIL1	4C	00-FF							POS 54
337	A2 FM	A2 ST	A2 BIL1	NCM FM	NCM MONO	NCM ST	NCM BIL2	NCM BIL1	4C	00-FF							POS 55
338	A2 FM	A2 ST	A2 BIL1	NCM FM	NCM MONO	NCM ST	NCM BIL2	NCM BIL1	4C	00-FF							POS 56
339	A2 FM	A2 ST	A2 BIL1	NCM FM	NCM MONO	NCM ST	NCM BIL2	NCM BIL1	4C	00-FF							POS 57
33A	A2 FM	A2 ST	A2 BIL1	NCM FM	NCM MONO	NCM ST	NCM BIL2	NCM BIL1	4C	00-FF							POS 58
33B	A2 FM	A2 ST	A2 BIL1	NCM FM	NCM MONO	NCM ST	NCM BIL2	NCM BIL1	4C	00-FF							POS 59
33C	A2 FM	A2 ST	A2 BIL1	NCM FM	NCM MONO	NCM ST	NCM BIL2	NCM BIL1	4C	00-FF							POS 60
33D	A2 FM	A2 ST	A2 BIL1	NCM FM	NCM MONO	NCM ST	NCM BIL2	NCM BIL1	4C	00-FF							POS 61
33E	A2 FM	A2 ST	A2 BIL1	NCM FM	NCM MONO	NCM ST	NCM BIL2	NCM BIL1	4C	00-FF							POS 62
33F	A2 FM	A2 ST	A2 BIL1	NCM FM	NCM MONO	NCM ST	NCM BIL2	NCM BIL1	4C	00-FF							POS 63
MODEL									MODEL								
LETTER NO.									LETTER NO.								

MEMORY MAP (Continued)

SLAVE ADDRESS : A0(00-FF) A2(100-1FF) A4(200-2FF) A6(300-3FF)

ADDRESS	DATA								MICON	EEPROM	EEPROM	CHASSIS		CTV FINAL		LAST INITIAL	
(HEX)	D7	D6	D5	D4	D3	D2	D1	D0	DEFAULT	RANGE	WRITE(CPU)	CHECK DATA	CHECK TYPE	CHECK DATA	CHECK TYPE	SETTING DATA	REMARK
340	A2 FM	A2 ST	A2 BIL1	NCM FM	NCM MONO	NCM ST	NCM BIL2	NCM BIL1	4C	00-FF							POS 64
341	A2 FM	A2 ST	A2 BIL1	NCM FM	NCM MONO	NCM ST	NCM BIL2	NCM BIL1	4C	00-FF							POS 65
342	A2 FM	A2 ST	A2 BIL1	NCM FM	NCM MONO	NCM ST	NCM BIL2	NCM BIL1	4C	00-FF							POS 66
343	A2 FM	A2 ST	A2 BIL1	NCM FM	NCM MONO	NCM ST	NCM BIL2	NCM BIL1	4C	00-FF							POS 67
344	A2 FM	A2 ST	A2 BIL1	NCM FM	NCM MONO	NCM ST	NCM BIL2	NCM BIL1	4C	00-FF							POS 68
345	A2 FM	A2 ST	A2 BIL1	NCM FM	NCM MONO	NCM ST	NCM BIL2	NCM BIL1	4C	00-FF							POS 69
346	A2 FM	A2 ST	A2 BIL1	NCM FM	NCM MONO	NCM ST	NCM BIL2	NCM BIL1	4C	00-FF							POS 70
347	A2 FM	A2 ST	A2 BIL1	NCM FM	NCM MONO	NCM ST	NCM BIL2	NCM BIL1	4C	00-FF							POS 71
348	A2 FM	A2 ST	A2 BIL1	NCM FM	NCM MONO	NCM ST	NCM BIL2	NCM BIL1	4C	00-FF							POS 72
349	A2 FM	A2 ST	A2 BIL1	NCM FM	NCM MONO	NCM ST	NCM BIL2	NCM BIL1	4C	00-FF							POS 73
34A	A2 FM	A2 ST	A2 BIL1	NCM FM	NCM MONO	NCM ST	NCM BIL2	NCM BIL1	4C	00-FF							POS 74
34B	A2 FM	A2 ST	A2 BIL1	NCM FM	NCM MONO	NCM ST	NCM BIL2	NCM BIL1	4C	00-FF							POS 75
34C	A2 FM	A2 ST	A2 BIL1	NCM FM	NCM MONO	NCM ST	NCM BIL2	NCM BIL1	4C	00-FF							POS 76
34D	A2 FM	A2 ST	A2 BIL1	NCM FM	NCM MONO	NCM ST	NCM BIL2	NCM BIL1	4C	00-FF							POS 77
34E	A2 FM	A2 ST	A2 BIL1	NCM FM	NCM MONO	NCM ST	NCM BIL2	NCM BIL1	4C	00-FF							POS 78
34F	A2 FM	A2 ST	A2 BIL1	NCM FM	NCM MONO	NCM ST	NCM BIL2	NCM BIL1	4C	00-FF							POS 79
350	A2 FM	A2 ST	A2 BIL1	NCM FM	NCM MONO	NCM ST	NCM BIL2	NCM BIL1	4C	00-FF							POS 80
351	A2 FM	A2 ST	A2 BIL1	NCM FM	NCM MONO	NCM ST	NCM BIL2	NCM BIL1	4C	00-FF							POS 81
352	A2 FM	A2 ST	A2 BIL1	NCM FM	NCM MONO	NCM ST	NCM BIL2	NCM BIL1	4C	00-FF							POS 82
353	A2 FM	A2 ST	A2 BIL1	NCM FM	NCM MONO	NCM ST	NCM BIL2	NCM BIL1	4C	00-FF							POS 83
354	A2 FM	A2 ST	A2 BIL1	NCM FM	NCM MONO	NCM ST	NCM BIL2	NCM BIL1	4C	00-FF							POS 84
355	A2 FM	A2 ST	A2 BIL1	NCM FM	NCM MONO	NCM ST	NCM BIL2	NCM BIL1	4C	00-FF							POS 85
356	A2 FM	A2 ST	A2 BIL1	NCM FM	NCM MONO	NCM ST	NCM BIL2	NCM BIL1	4C	00-FF							POS 86
357	A2 FM	A2 ST	A2 BIL1	NCM FM	NCM MONO	NCM ST	NCM BIL2	NCM BIL1	4C	00-FF							POS 87
358	A2 FM	A2 ST	A2 BIL1	NCM FM	NCM MONO	NCM ST	NCM BIL2	NCM BIL1	4C	00-FF							POS 88
359	A2 FM	A2 ST	A2 BIL1	NCM FM	NCM MONO	NCM ST	NCM BIL2	NCM BIL1	4C	00-FF							POS 89
35A	A2 FM	A2 ST	A2 BIL1	NCM FM	NCM MONO	NCM ST	NCM BIL2	NCM BIL1	4C	00-FF							POS 90
35B	A2 FM	A2 ST	A2 BIL1	NCM FM	NCM MONO	NCM ST	NCM BIL2	NCM BIL1	4C	00-FF							POS 91
35C	A2 FM	A2 ST	A2 BIL1	NCM FM	NCM MONO	NCM ST	NCM BIL2	NCM BIL1	4C	00-FF							POS 92
35D	A2 FM	A2 ST	A2 BIL1	NCM FM	NCM MONO	NCM ST	NCM BIL2	NCM BIL1	4C	00-FF							POS 93
35E	A2 FM	A2 ST	A2 BIL1	NCM FM	NCM MONO	NCM ST	NCM BIL2	NCM BIL1	4C	00-FF							POS 94
35F	A2 FM	A2 ST	A2 BIL1	NCM FM	NCM MONO	NCM ST	NCM BIL2	NCM BIL1	4C	00-FF							POS 95
360	A2 FM	A2 ST	A2 BIL1	NCM FM	NCM MONO	NCM ST	NCM BIL2	NCM BIL1	4C	00-FF							POS 96
361	A2 FM	A2 ST	A2 BIL1	NCM FM	NCM MONO	NCM ST	NCM BIL2	NCM BIL1	4C	00-FF							POS 97
362	A2 FM	A2 ST	A2 BIL1	NCM FM	NCM MONO	NCM ST	NCM BIL2	NCM BIL1	4C	00-FF							POS 98
363	A2 FM	A2 ST	A2 BIL1	NCM FM	NCM MONO	NCM ST	NCM BIL2	NCM BIL1	4C	00-FF							POS 99
364																	
365																	
366																	
367																	
368																	
369																	
36A																	
36B																	
36C																	
36D																	
36E																	
36F																	
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371																	
372																	
373																	
374																	
375																	
376																	
377																	
378																	
379																	
37A																	
37B																	
37C																	
37D																	
37E																	
37F																	
MODEL									MODEL								
LETTER NO.									LETTER NO.								

MEMORY MAP (Continued)

SLAVE ADDRESS : A0(00-FF) A2(100-1FF) A4(200-2FF) A6(300-3FF)

ADDRESS	DATA								MICON	EEPROM	EEPROM	CHASSIS		CTV FINAL		LAST INITIAL	
(HEX)	D7	D6	D5	D4	D3	D2	D1	D0	DEFAULT	RANGE	WRITE(CPU)	CHECK DATA	CHECK TYPE	CHECK DATA	CHECK TYPE	SETTING DATA	REMARK
380																	
381																	
382																	
383																	
384																	
385																	
386																	
387																	
388																	
389																	
38A																	
38B																	
38C																	
38D																	
38E																	
38F																	
390																	
391																	
392																	
393																	
394																	
395																	
396																	
397																	
398																	
399																	
39A																	
39B																	
39C																	
39D																	
39E																	
39F																	
3A0																	
3A1																	
3A2																	
3A3																	
3A4																	
3A5																	
3A6																	
3A7																	
3A8																	
3A9																	
3AA																	
3AB																	
3AC																	
3AD																	
3AE																	
3AF																	
3B0																	
3B1																	
3B2																	
3B3																	
3B4																	
3B5																	
3B6																	
3B7																	
3B8																	
3B9																	
3BA																	
3BB																	
3BC																	
3BD																	
3BE																	
3BF																	
MODEL									MODEL								
LETTER NO.									LETTER NO.								

MEMORY MAP (Continued)

SLAVE ADDRESS : A0(00-FF) A2(100-1FF) A4(200-2FF) A6(300-3FF)

ADDRESS	DATA								MICON	EEPROM	EEPROM	CHASSIS		CTV FINAL		LAST INITIAL	
(HEX)	D7	D6	D5	D4	D3	D2	D1	D0	DEFAULT	RANGE	WRITE(CPU)	CHECK DATA	CHECK TYPE	CHECK DATA	CHECK TYPE	SETTING DATA	REMARK
3C0																	
3C1																	
3C2																	
3C3																	
3C4																	
3C5																	
3C6																	
3C7																	
3C8																	
3C9																	
3CA																	
3CB																	
3CC																	
3CD																	
3CE																	
3CF																	
3D0																	
3D1																	
3D2																	
3D3																	
3D4																	
3D5																	
3D6																	
3D7																	
3D8																	
3D9																	
3DA																	
3DB																	
3DC																	
3DD																	
3DE																	
3DF																	
3E0																	
3E1																	
3E2																	
3E3																	
3E4																	
3E5																	
3E6																	
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3E9																	
3EA																	
3EB																	
3EC																	
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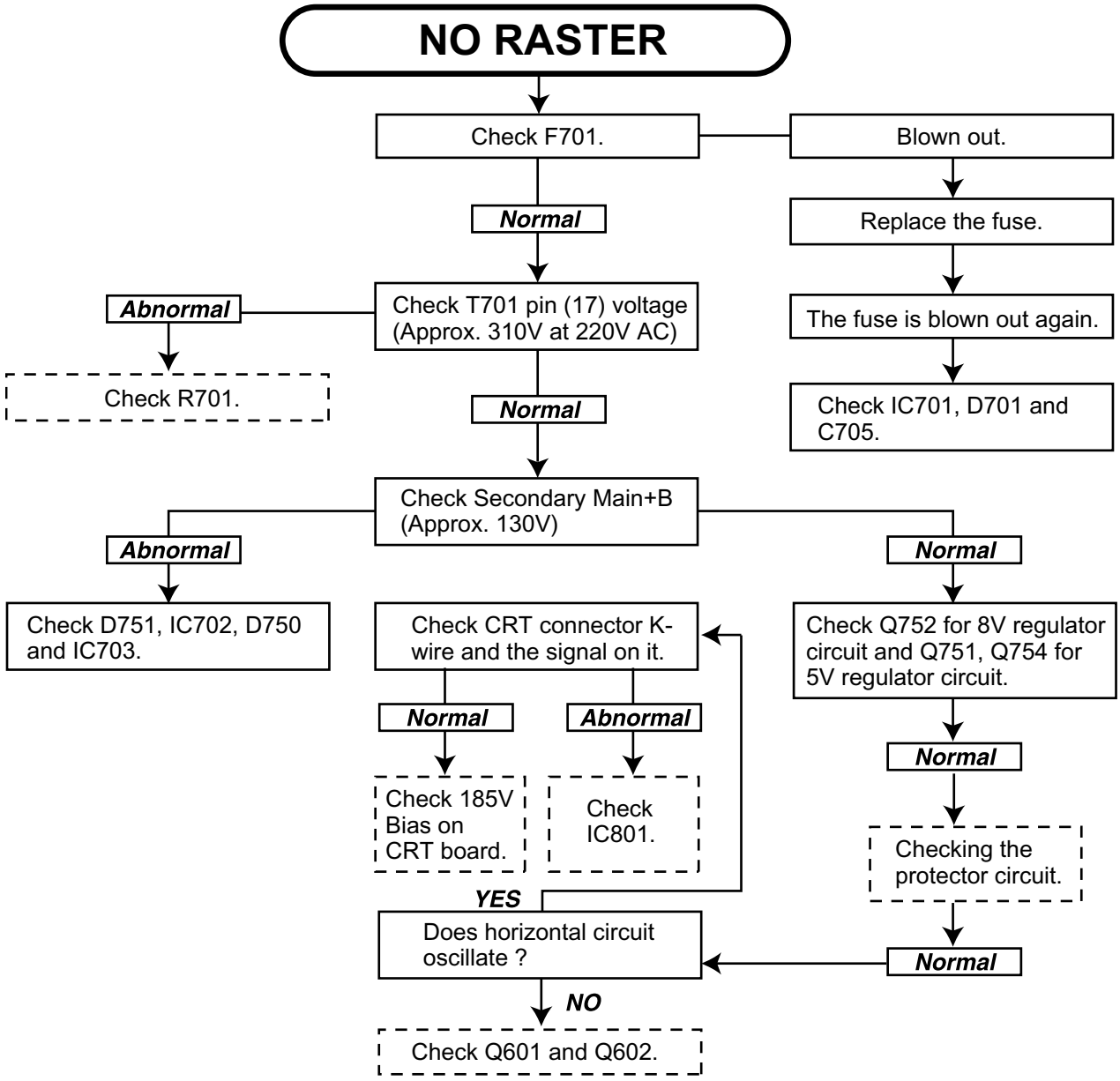
3F6																	
3F7																	
3F8																	
3F9																	
3FA																	
3FB																	
3FC																	
3FD																	
3FE																	
3FF																	
MODEL									MODEL								
LETTER NO.									LETTER NO.								

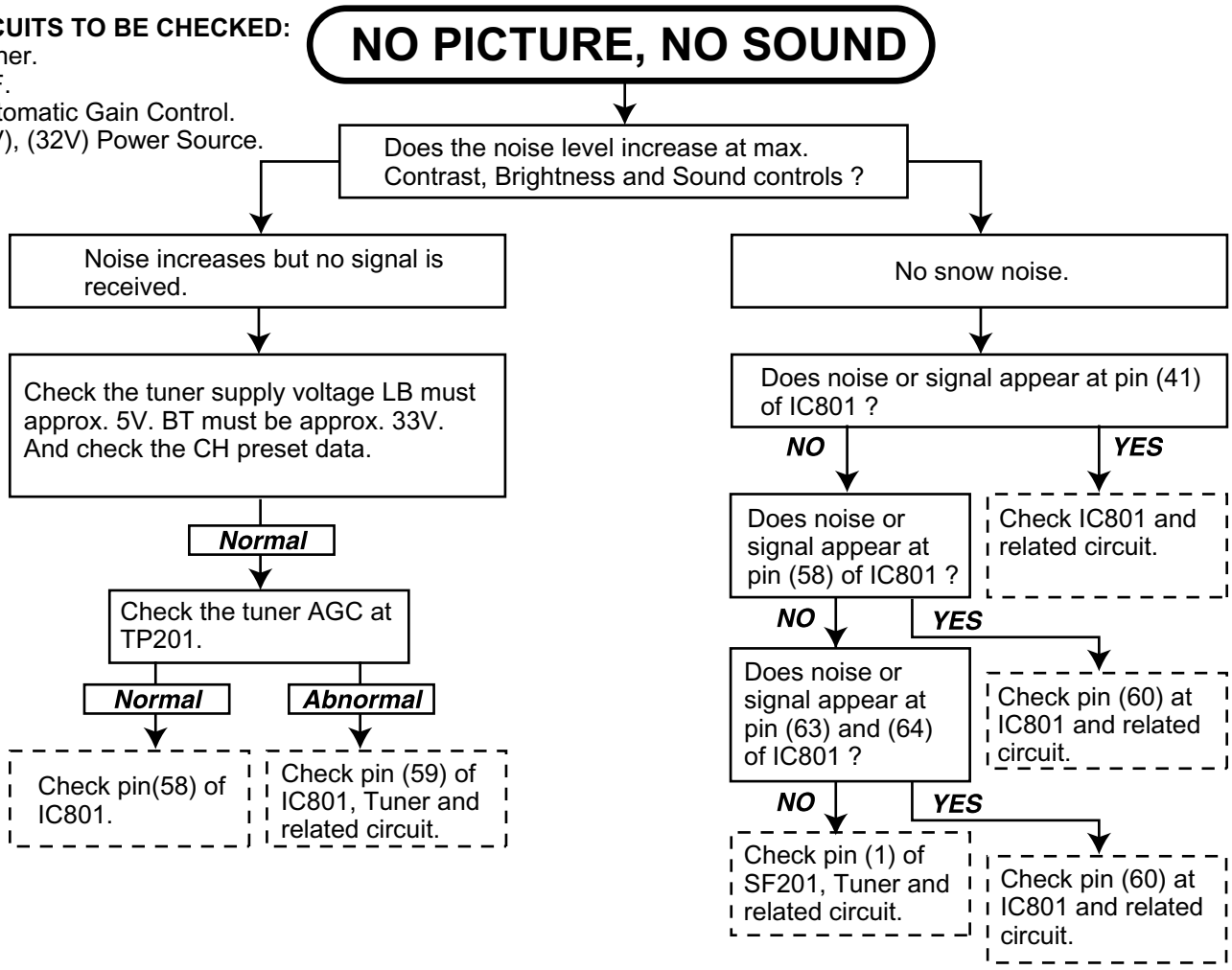
CHAPTER 5. TROUBLE SHOOTING FLOWCHART

[1] TROUBLE SHOOTING FLOWCHART

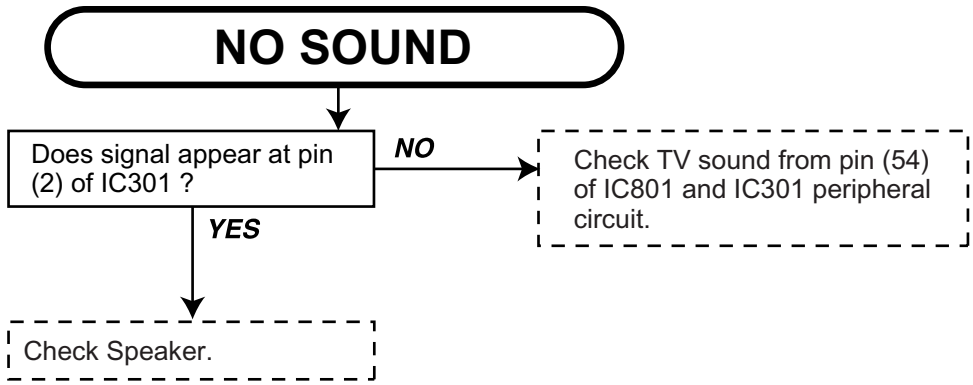


TROUBLE SHOOTING FLOW CHART (Continued)

CIRCUITS TO BE CHECKED:
- Tuner.
- PIF.
- Automatic Gain Control.
- (5V), (32V) Power Source.


NO PICTURE, NO SOUND
Does the noise level increase at max. Contrast, Brightness and Sound controls ?
Noise increases but no signal is received.
Check the tuner supply voltage LB must approx. 5V. BT must be approx. 33V. And check the CH preset data.
Normal
Check the tuner AGC at TP201.
Normal
Abnormal
Check pin(58) of IC801.
Check pin (59) of IC801, Tuner and related circuit.
No snow noise.
Does noise or signal appear at pin (41) of IC801 ?
NO
YES
Does noise or signal appear at pin (58) of IC801 ?
Check IC801 and related circuit.
NO
YES
Does noise or signal appear at pin (63) and (64) of IC801 ?
Check pin (60) at IC801 and related circuit.
NO
YES
Check pin (1) of SF201, Tuner and related circuit.
Check pin (60) at IC801 and related circuit.

CIRCUITS TO BE CHECKED:
- Sound Detector Circuit.
- Sound Switch and Att. Control.
- Audio Output Circuit.


NO SOUND
Does signal appear at pin (2) of IC301 ?
NO
Check TV sound from pin (54) of IC801 and IC301 peripheral circuit.
YES
Check Speaker.

NEITHER VERTICAL NOR HORIZONTAL SYNCHRONIZATION

CIRCUIT TO BE CHECKED:
● Sync. Separator Circuit.

Check pins(5), (6), (10) and (11) of IC801.

DEFECTIVE VERTICAL AMP. AND VERTICAL LINEARITY

Re-adjust vertical size. (Bus Data)

Vertical linearity and size are abnormal.

Check R503, R506, R513, R520 and C515.

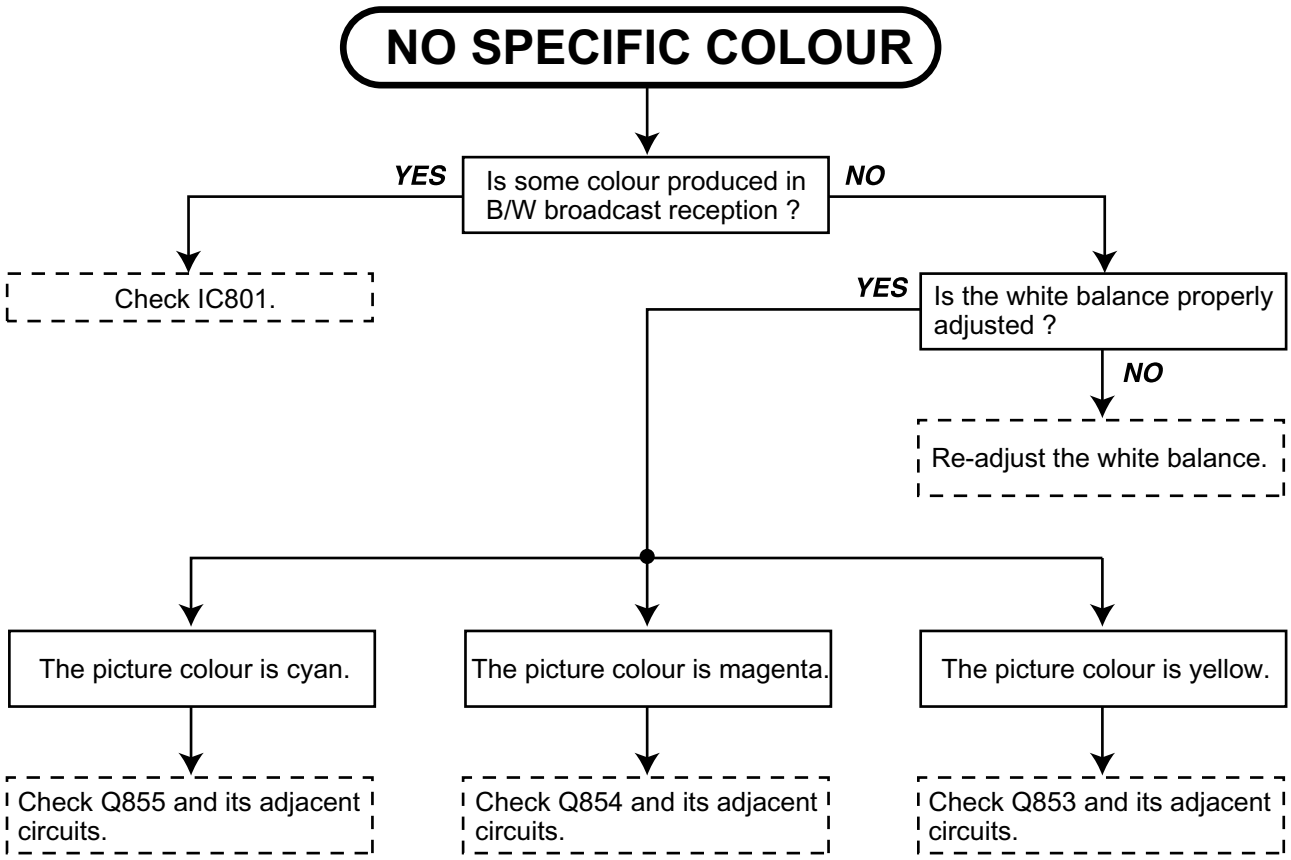
NO VERTICAL SCAN

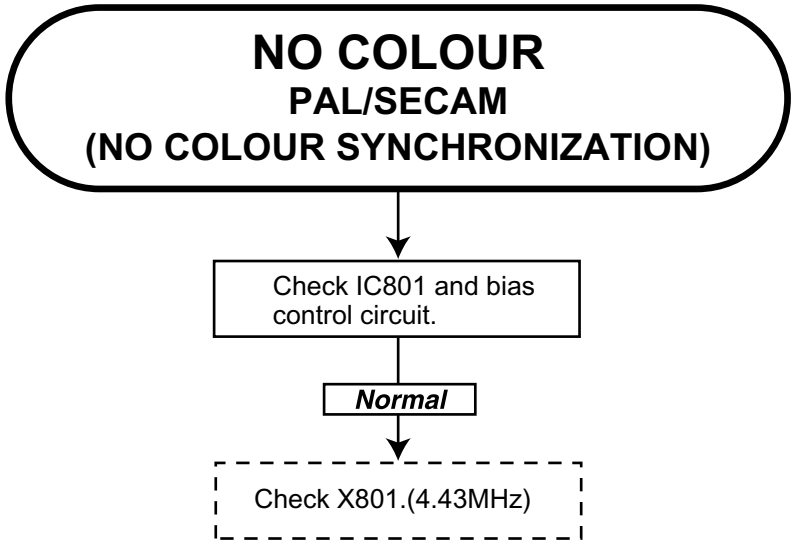
Check IC501 bias.

Normal → Check C511.

Abnormal → Check IC501.

TROUBLE SHOOTING FLOW CHART (Continued)

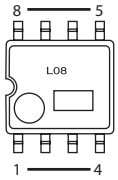

NO SPECIFIC COLOUR
YES
Is some colour produced in B/W broadcast reception ?
NO
Check IC801.
YES
Is the white balance properly adjusted ?
NO
Re-adjust the white balance.
The picture colour is cyan.
The picture colour is magenta.
The picture colour is yellow.
Check Q855 and its adjacent circuits.
Check Q854 and its adjacent circuits.
Check Q853 and its adjacent circuits.



CHAPTER 6. SOLID STATE DEVICE BASE DIAGRAM

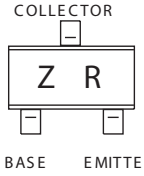
[1] SOLID STATE DEVICE BASE DIAGRAM

TOP VIEW

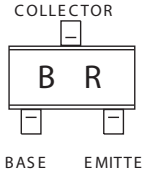


BR24L08F

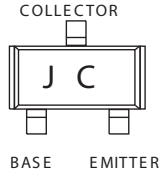
FXA003WJ



D601A

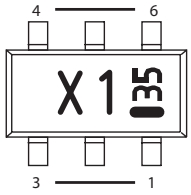


B709A

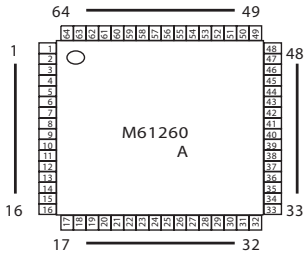


2SC2735

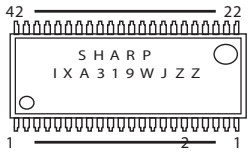
EX1393CE



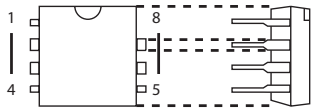
IMX1C/C



M61260AF

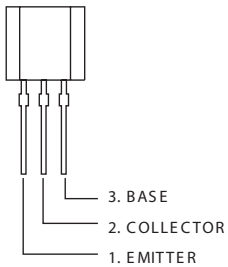


IXA319WJ

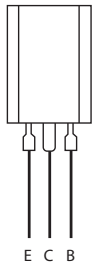


TEA1507

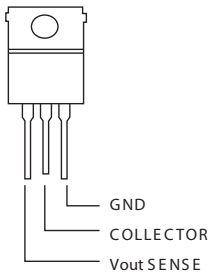
SIDE VIEW



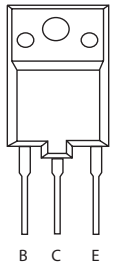
2PC1815Y
2PC1815G
2PA1015Y



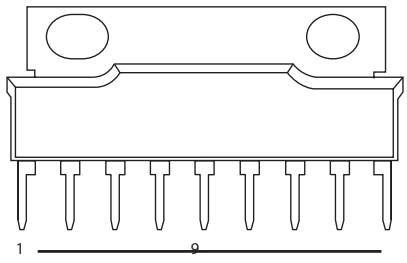
2SC2236Y
2SC2482



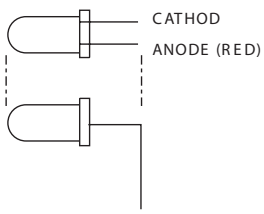
SE130N



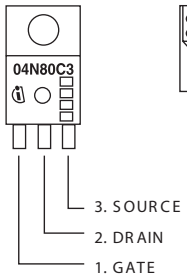
2SD2539



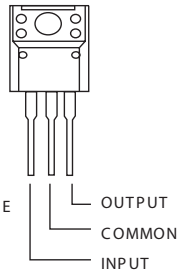
AN17823A



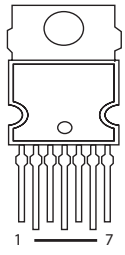
PX0013



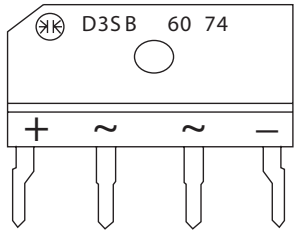
04N80C3



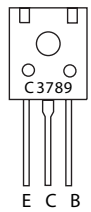
KA7809A



STV9302A



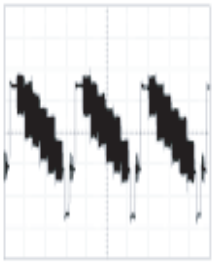
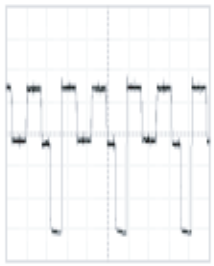
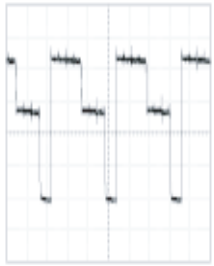
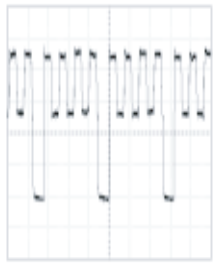
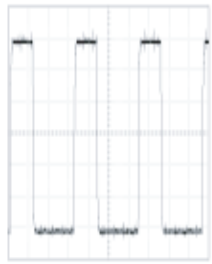
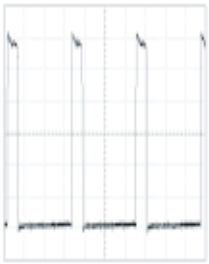
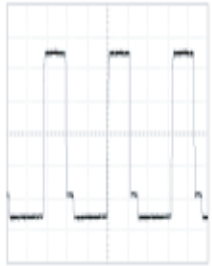
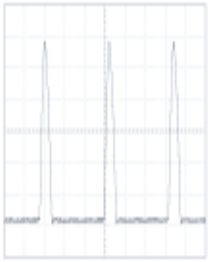
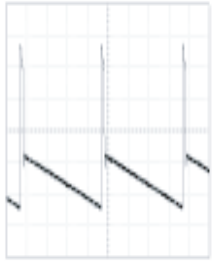
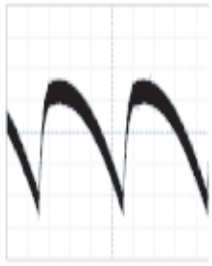
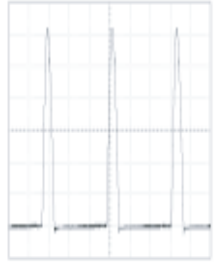
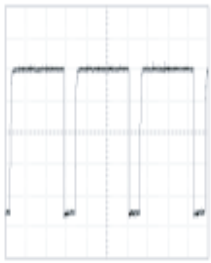
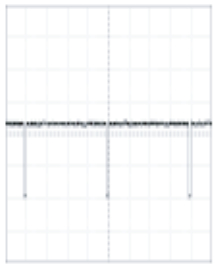
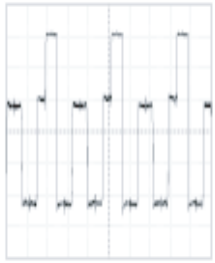
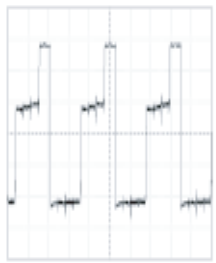
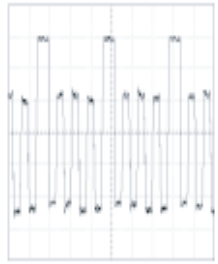
DX0476CE



2SC3789

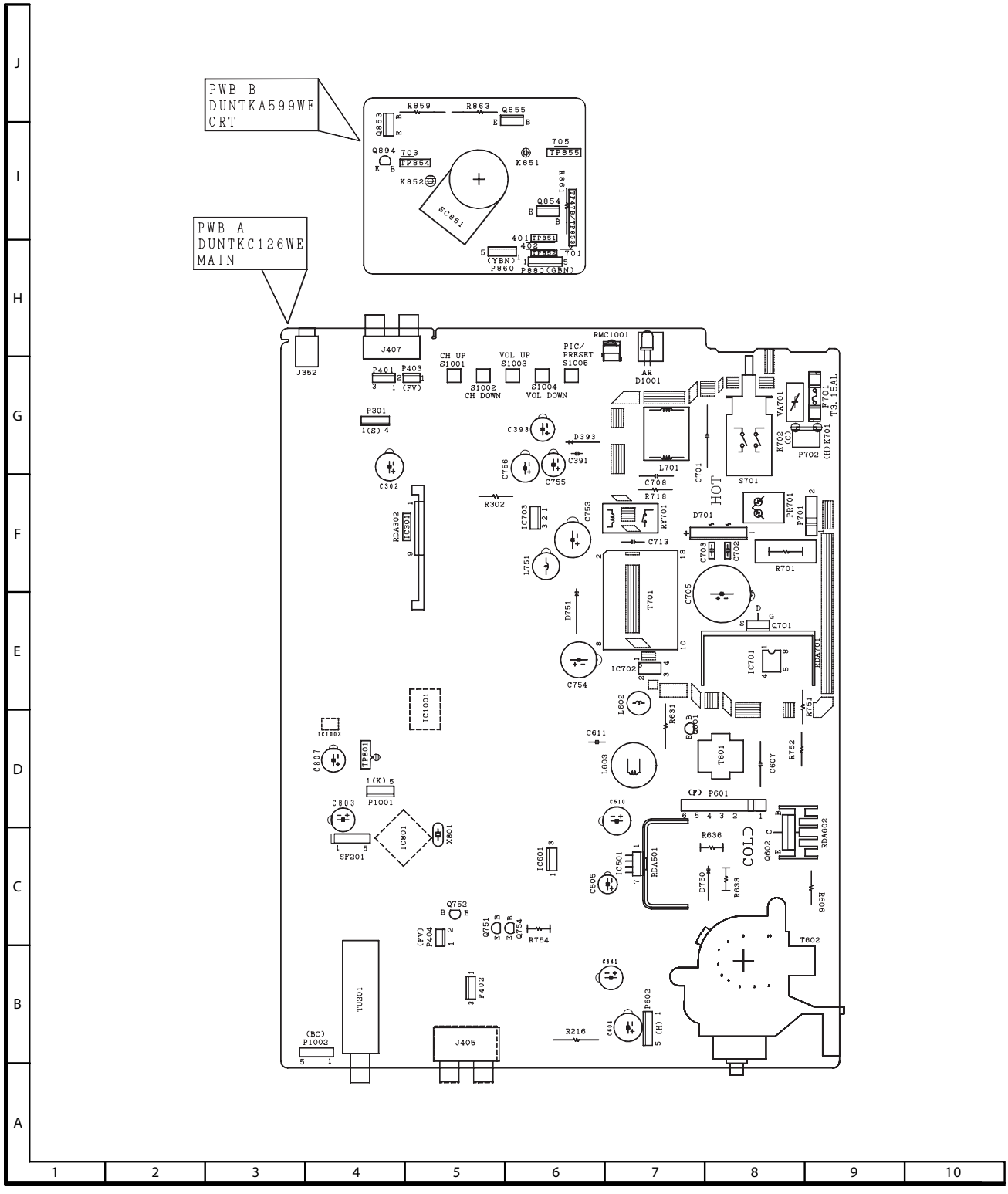
CHAPTER 7. WAVEFORMS

[1] WAVEFORMS

				
1) 0.896 Vp-p (H)	2) 4.64 Vp-p (H)	3) 4.56 Vp-p (H)	4) 5.28 Vp-p (H)	5) 5.84 Vp-p (H)
				
6) 6.12 Vp-p (H)	7) 1.64 Vp-p (V)	8) 1.64 Vp-p (V)	9) 5.04 Vp-p (H)	10) 98.4 Vp-p (H)
				
11) 1112 Vp-p (H)	12) 52.0 Vp-p (V)	13) 4.68 Vp-p (V)	14) 124.0 Vp-p (H)	15) 652.0 Vp-p
				
16) 5.08 Vp-p (H)	17) 5.04 Vp-p (V)	18) 108.8 Vp-p (H)	19) 104.8 Vp-p (H)	20) 124.8 Vp-p (H)

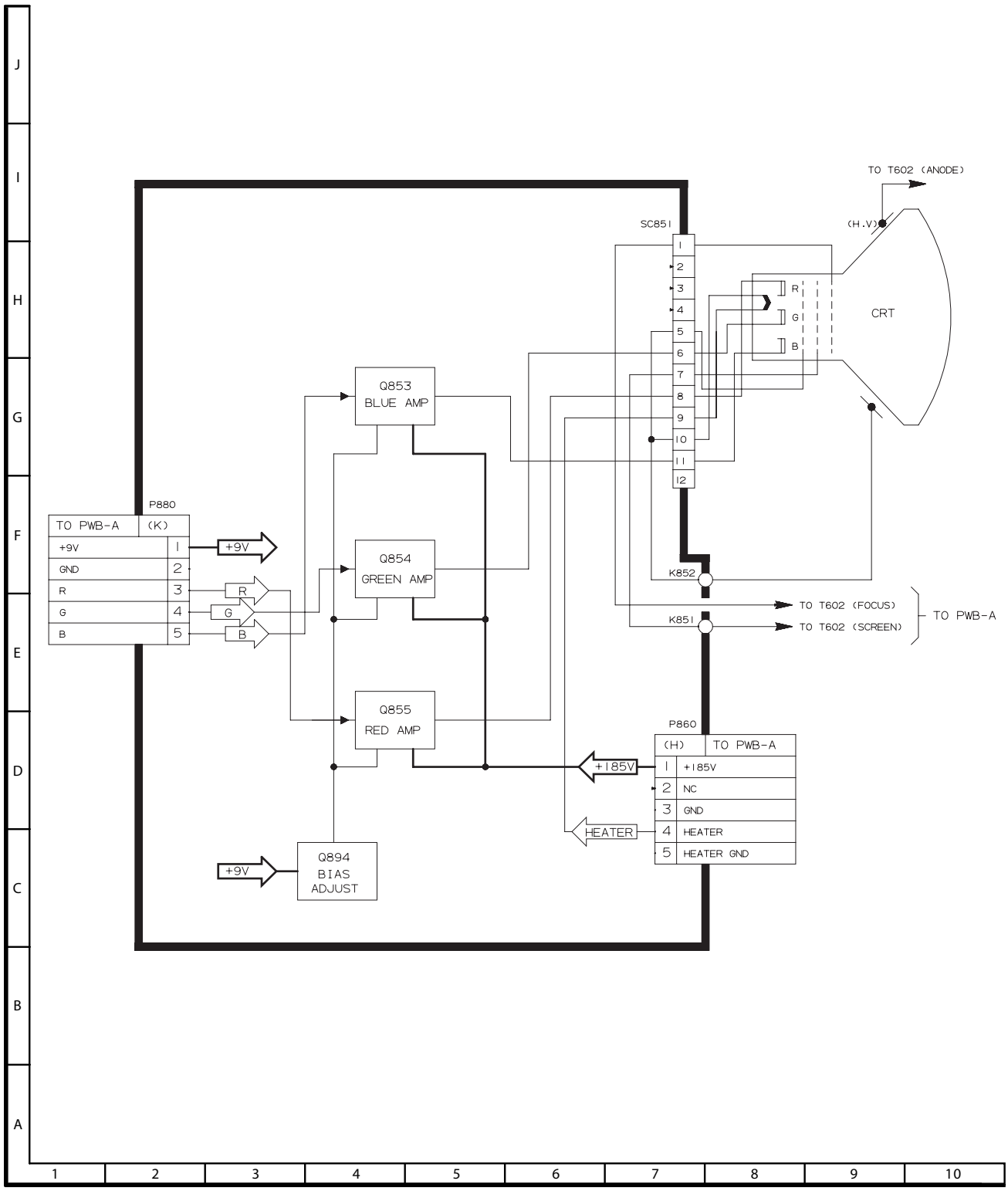
CHAPTER 8. CAHSSIS LAYOUT

[1] CHASSIS LAYOUT

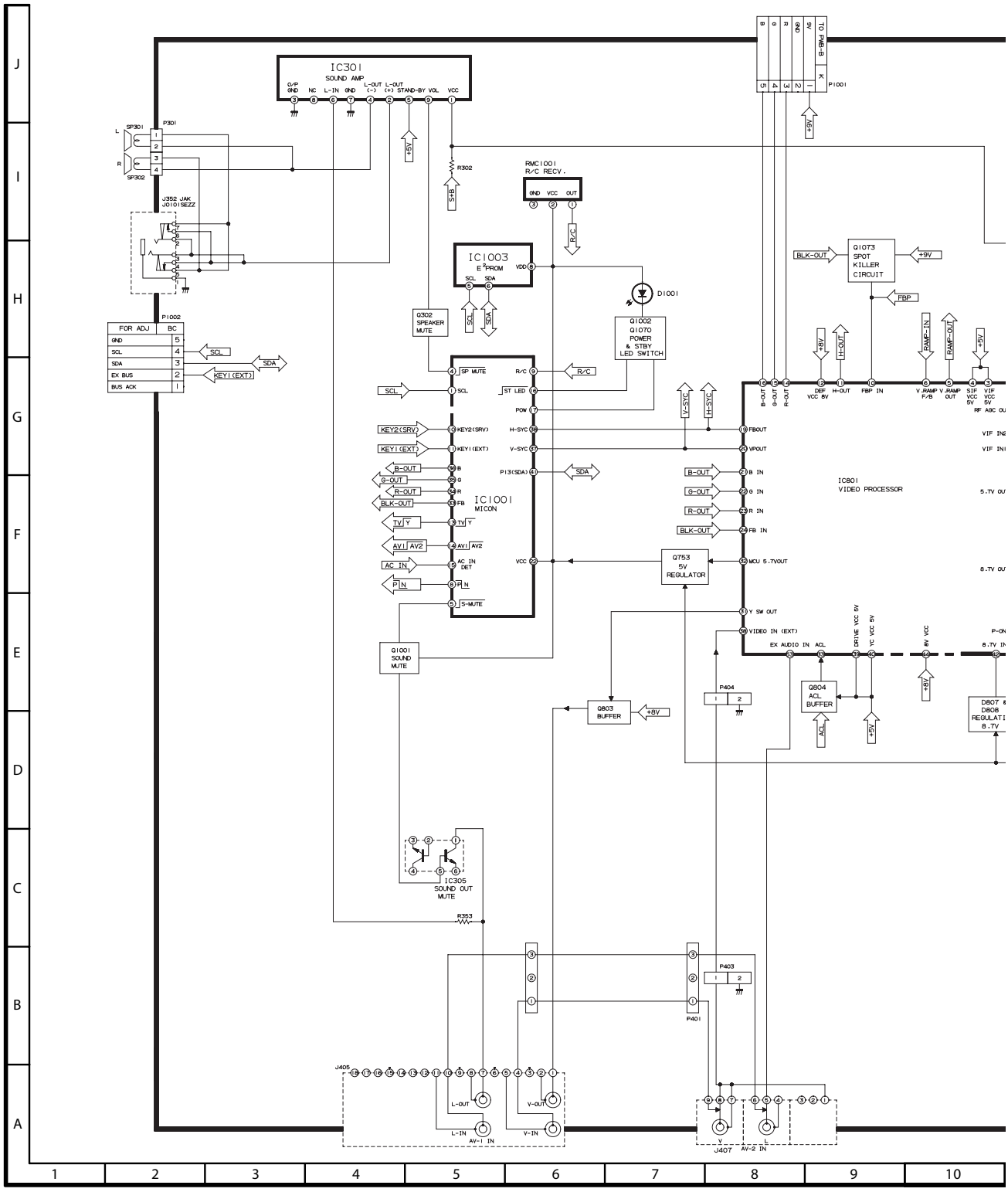


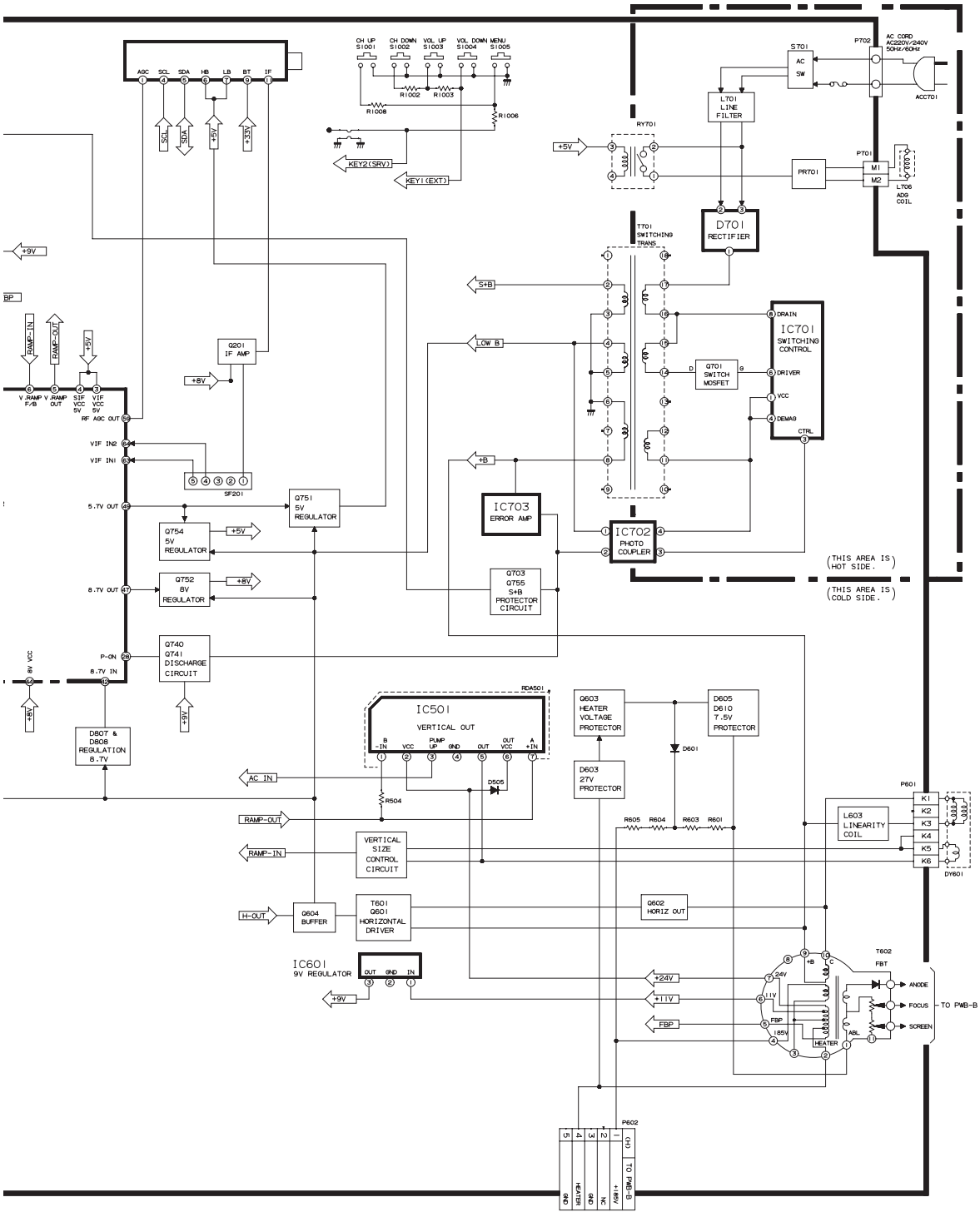
CHAPTER 9. BLOCK DIAGRAM

[1] BLOCK DIAGRAM: CRT UNIT



[2] BLOCK DIAGRAM: MAIN UNIT





10	11	12	13	14	15	16	17	18	19

CHAPTER 10. DESCRIPTION OF SCHEMATIC DIAGRAM

[1] DESCRIPTION OF SCHEMATIC DIAGRAM

SAFETY NOTES:

1. DISCONNECT THE AC PLUG FROM THE AC OUTLET BEFORE REPLACING PARTS.
2. SEMICONDUCTOR HEAT SINKS SHOULD BE REGARDED AS POTENTIAL SHOCK HAZARDS WHEN THE CHASSIS IS OPERATING.

IMPORTANT SAFETY NOTICE:

PARTS MARKED WITH " ⚠ " ( ) ARE IMPOTANT FOR MAIN TAINING THE SAFETY OF THE SET. BE SURE TO REPLACE THESE PARTS WITH SPECIFIED ONES FOR MAINTAINING THE SAFETY AND PERFORMANCE OF THE SET.

SERVICE PRECAUTION:

THE AREA ENCLOSED BY THIS LINE (— - —) IS DIRECTLY CONNECTED WITH AC MAINS VOLTAGE.
WHEN SERVICING THE AREA, CONNECT AN ISOLATING TRANS-FORMER BETWEEN TV RECEIVER AND AC LINE TO ELIMINATE HAZARD OF ELECTRIC SHOCK.

NOTES:

1. The unit of resistance "ohm" is omitted. (K = 1000 ohms, M = Mega ohm).
2. All resistors are 1/16 watt, unless otherwise noted.
3. All capacitors are F, unless otherwise noted. (P = F).

VOLTAGE MEASUREMENT CONDITIONS:

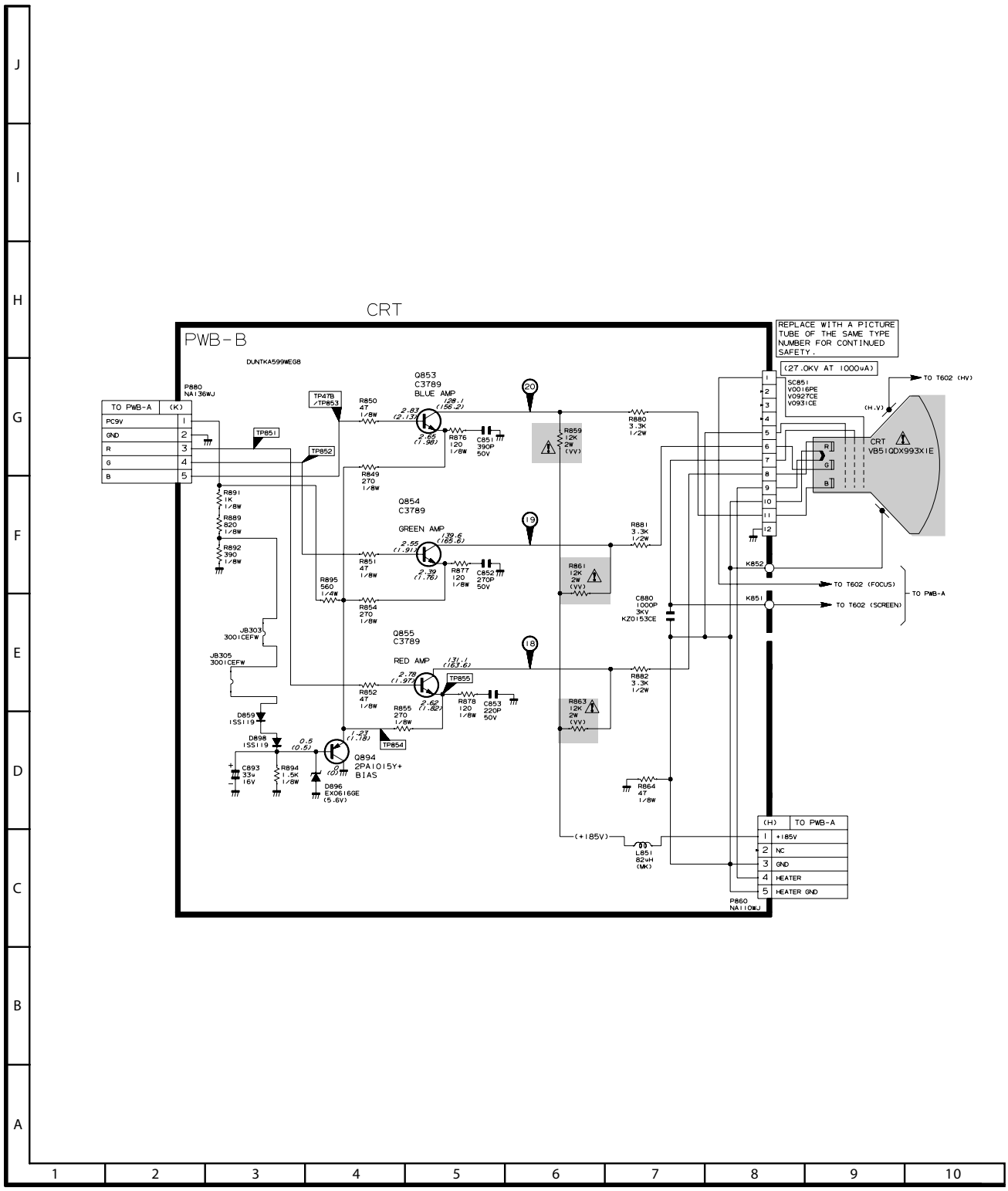
1. Voltages in parenthesis measured with no signal.
2. V oltages without parenthesis measured with 3mV B & W or Colour signal.
3. All the voltages in each point are measured with VTVM.

WAVEFORM MEASUREMENT CONDITIONS:

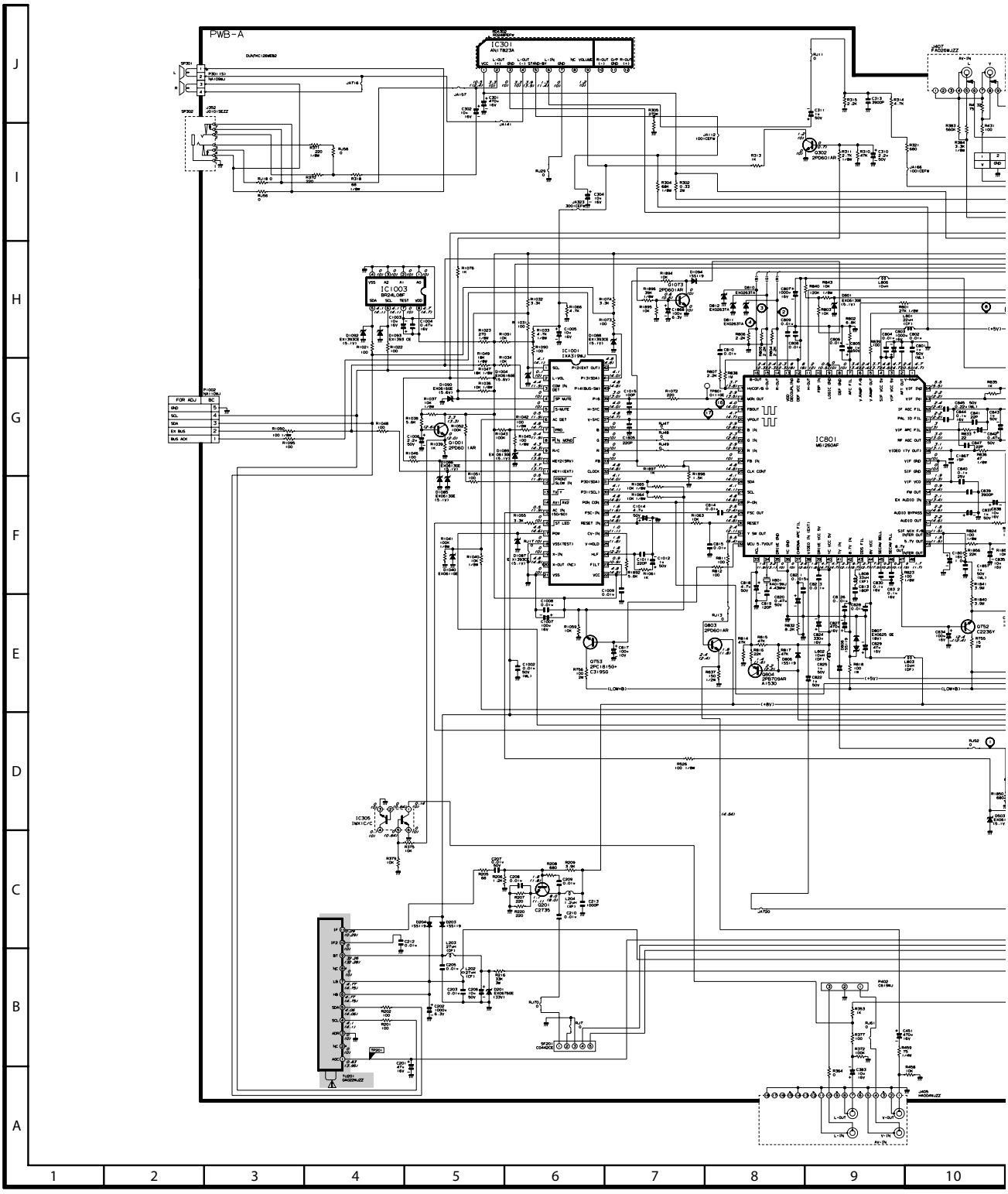
1. The colour bar generator signal of 1.0V peak applied at pin (41) of IC801.
2. Approximately 4V AGC bias .

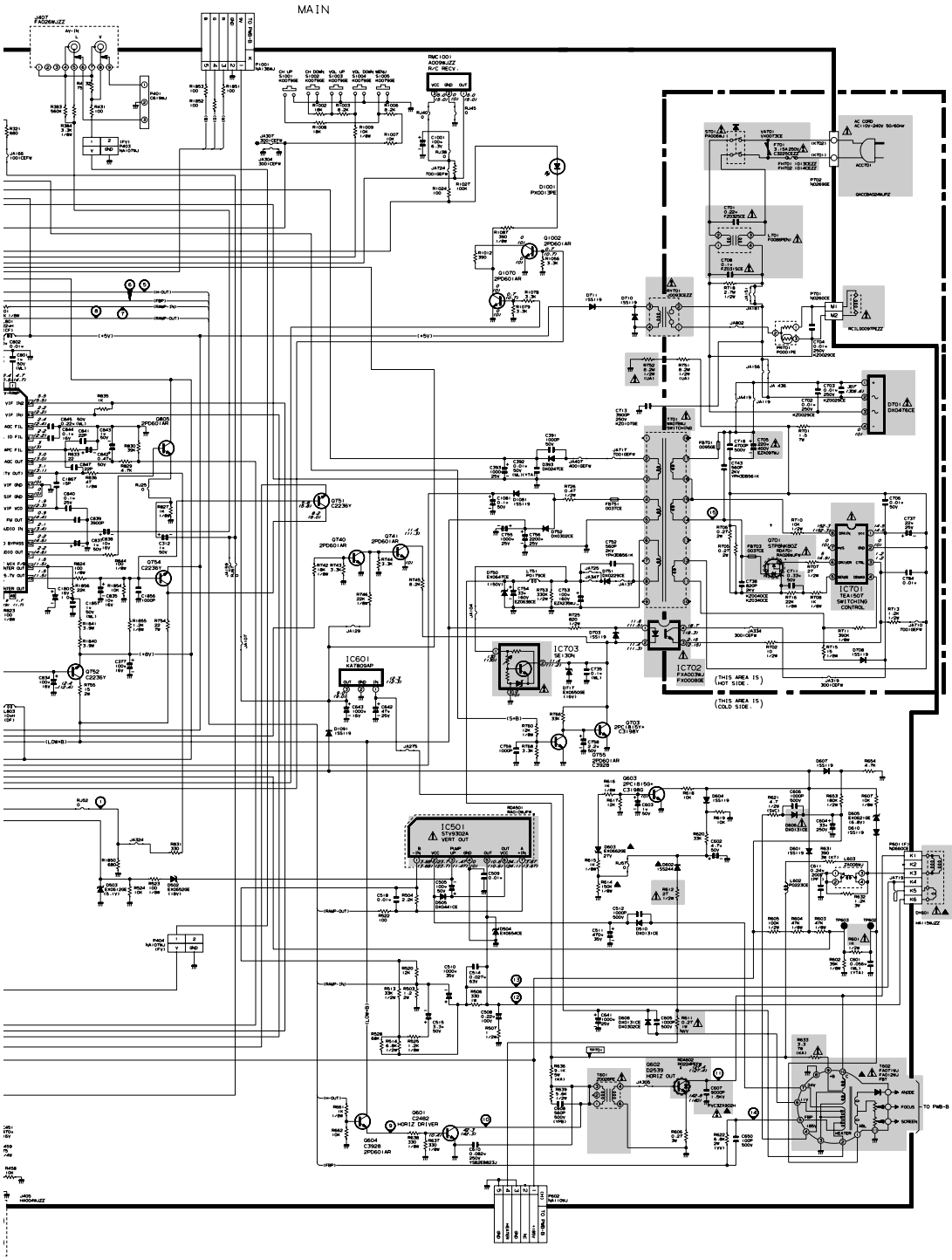
CHAPTER 11. SCHEMATIC DIAGRAM

[1] SCHEMATIC DIAGRAM: CRT UNIT



[2] SCHEMATIC DIAGRAM: MAIN UNIT



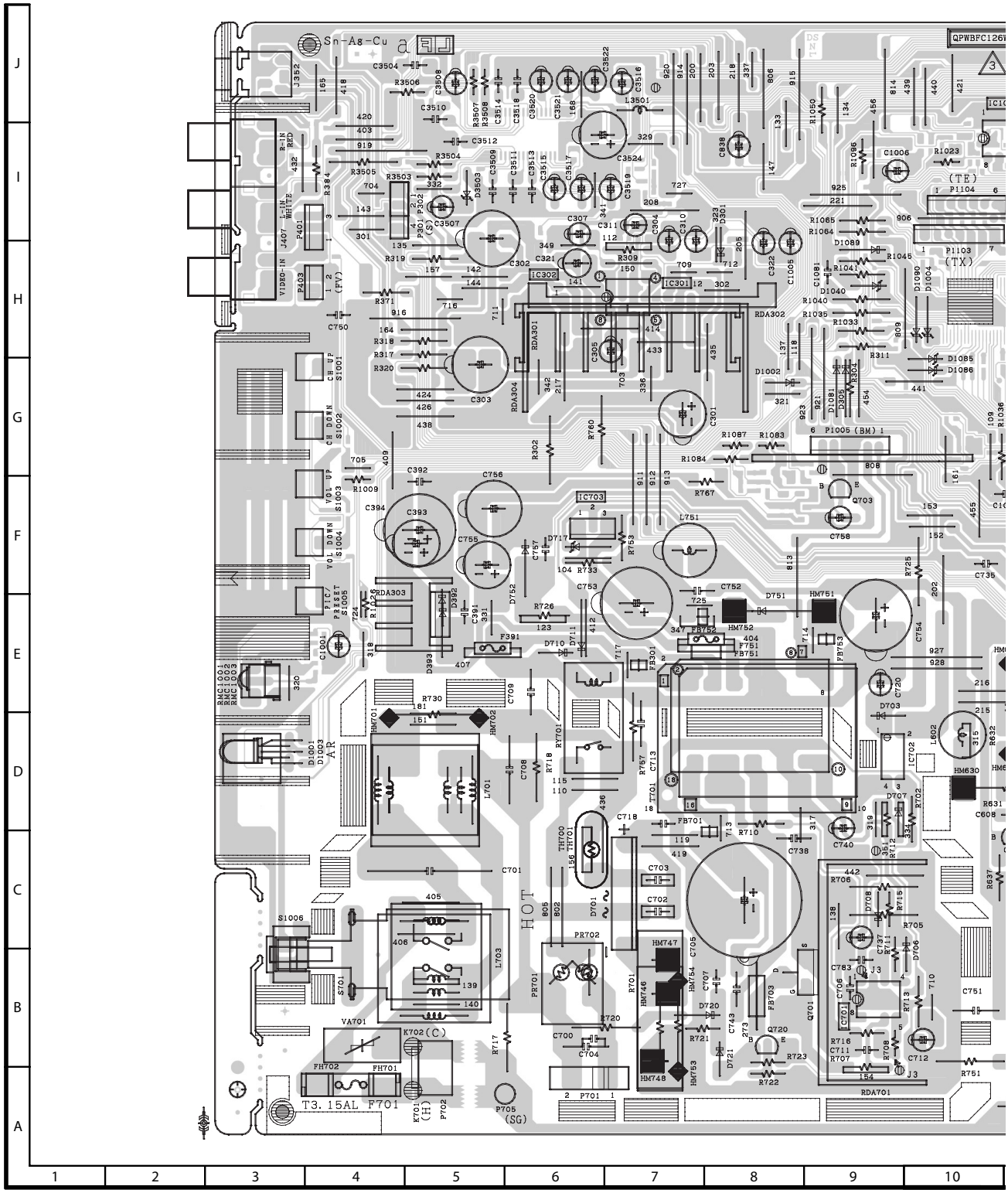


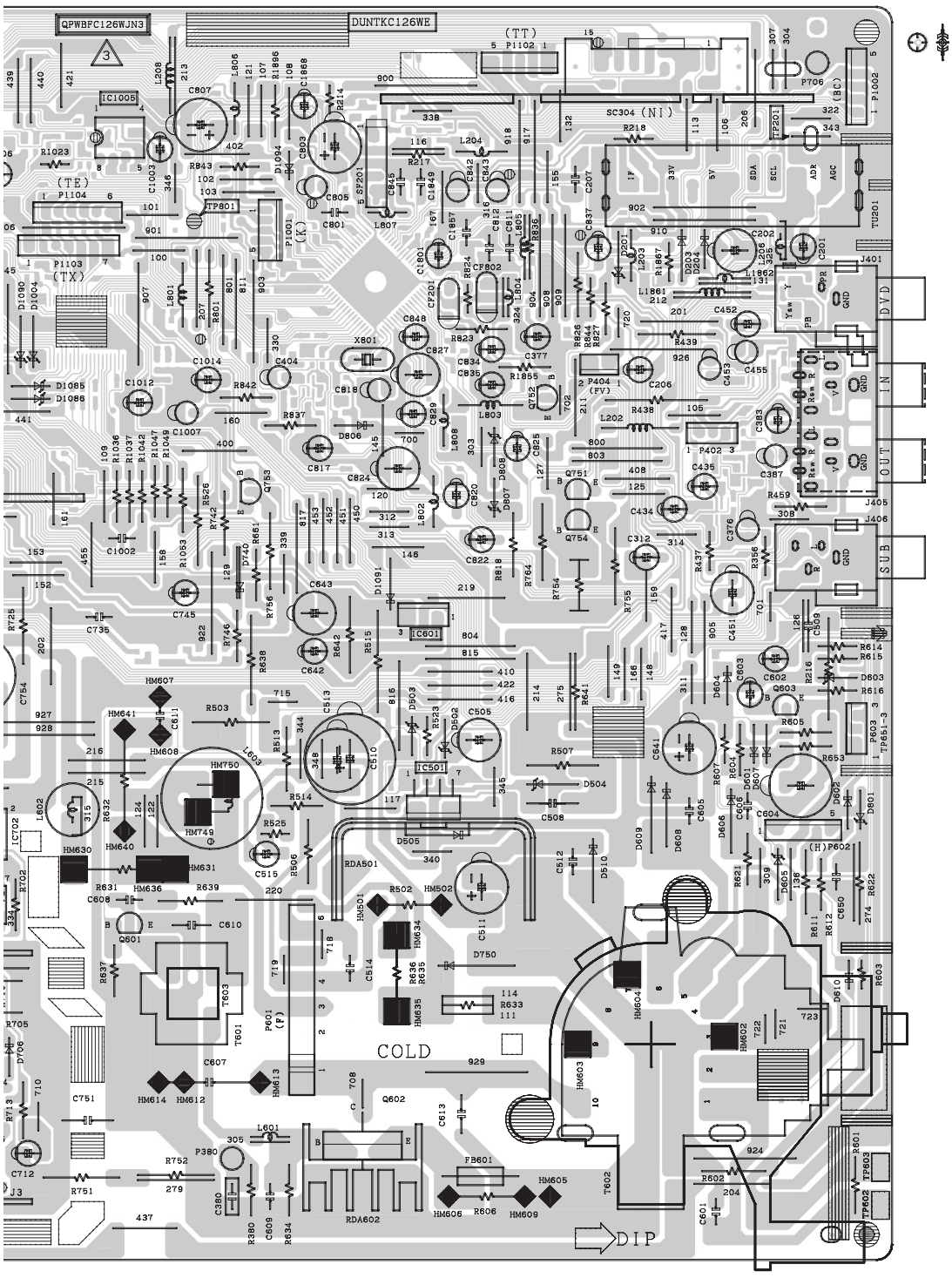
10	11	12	13	14	15	16	17	18	19

CHAPTER 12. PRINTED WIRING BOARD ASSEMBLIES

[1] PWB-A: MAIN UNIT

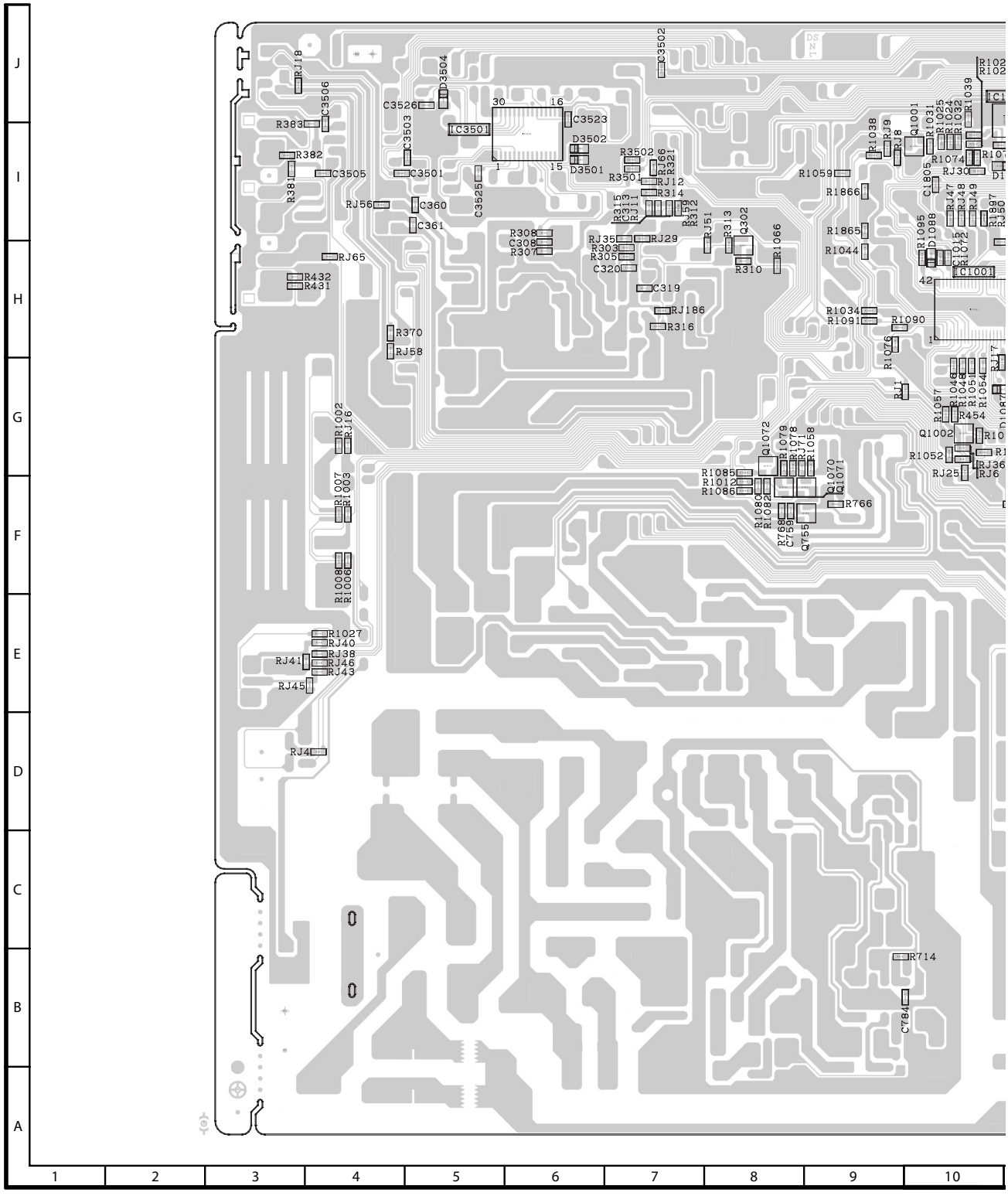
1. MAIN UNIT (Component Side)

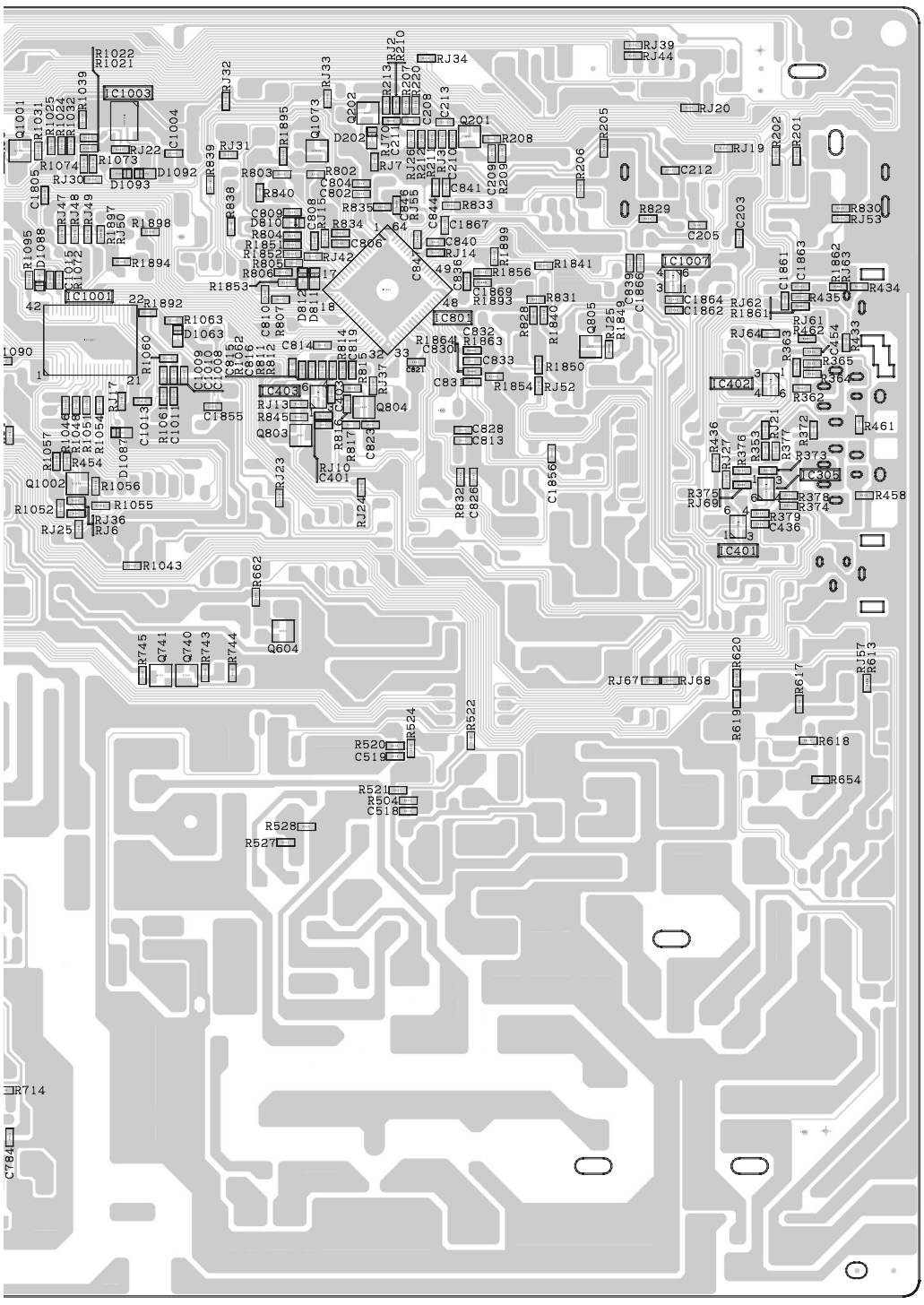




10	11	12	13	14	15	16	17	18	19

2. MAIN UNIT (Wiring Side)

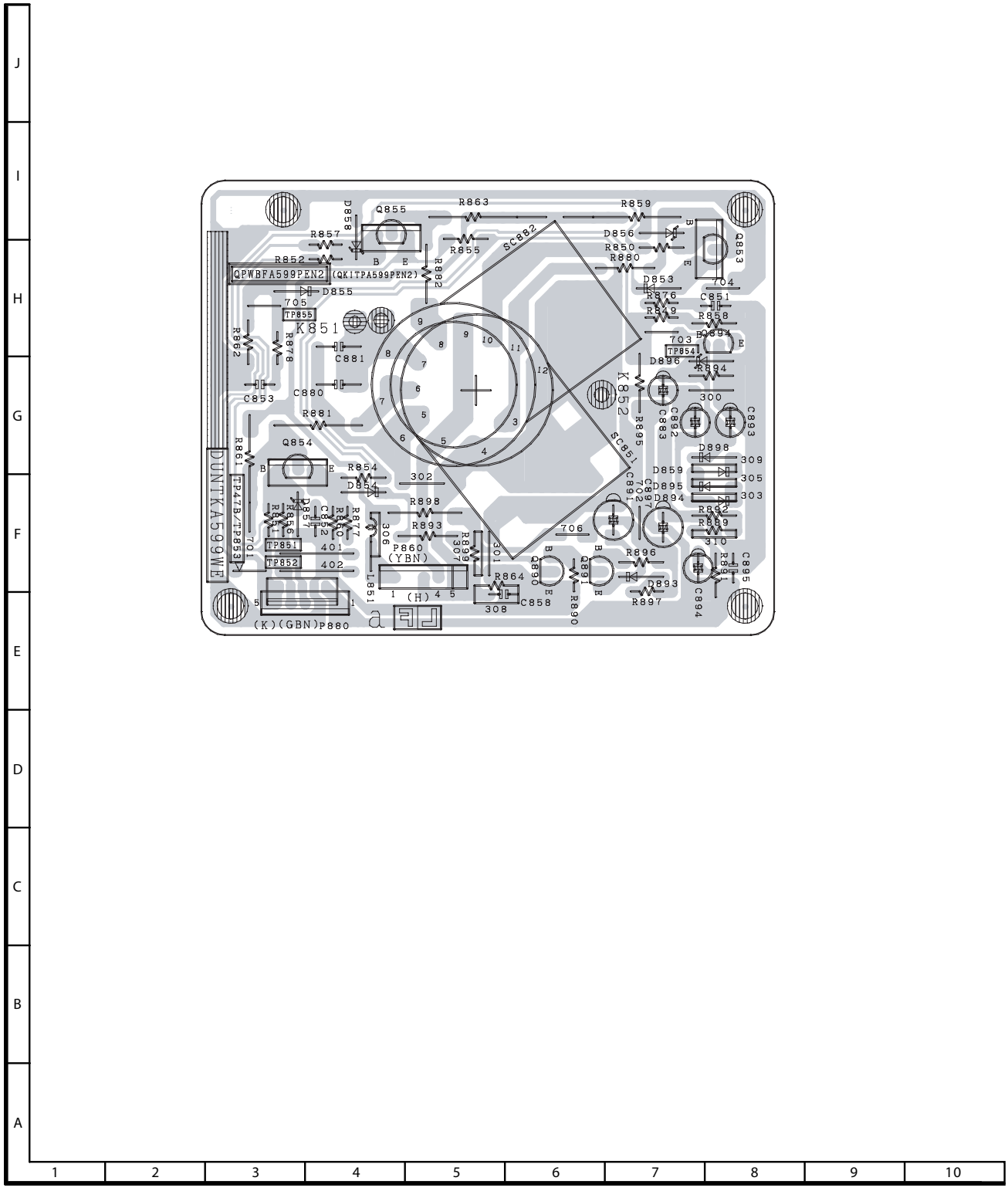




10	11	12	13	14	15	16	17	18	19

[2] PWB-B: CRT UNIT (Component Side)

1. CRT UNIT (Component Side)



SHARP PARTS GUIDE

No. S15D621HF2-SS

MODEL 21HF2-SS

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[7] CABINET PARTS

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Parts marked with "⚠" are important for maintaining the safety of the set. Be sure to replace these parts with specified ones for

SHARP CORPORATION

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The contents are subject to change without notice.

NO.	PARTS CODE	PRICE RANK	NEW MARK	PART RANK	DESCRIPTION
[1] PICTURE TUBE					
⚠	VB51QDX993X1E	CG		R	Picture Tube
⚠	RCiLG0097PEZZ	AP		R	Degaussing Coil
	QEARCA012WJZZ	AG		R	Ground-Part
	PMAGF3046CEZZ	AF		R	Magnet
[2] PRINTED WIRING BOARD ASSEMBLIES					
					(NOT REPLACEMENT ITEM)
PWB-A	DUNTKC126WEB2	-		-	MAIN Unit
PWB-B	DUNTKA599WEG8	-		-	CRT Unit
[3] MAIN UNIT					
					PWB-A: DUTNKC126WEB2
⚠ TU201	RTUNQA022WJZZ	AT		R	Tuner
IC301	VHiAN17823A-1	AG		R	AN17823A
IC305	VSiMX1C/C//-1Y	AC		R	iMX1C
⚠ IC501	VHiSTV9302A-1	AH		R	STV9302A
IC601	VHiKA7809AP-1	AE		R	KIA7809API
⚠ IC701	VHiTEA1507/-1	AL		R	TEA1507P/N1
⚠ IC702	RH-FXA003WJZZ	AD		R	PC123Y82
IC703	VHiSE130N//-1	AF		R	SE130N
IC801	VHiM61260AF1EQ	AZ		R	IC
IC1001	RH-iXA319WJN4	AT		R	IC
IC1003	VHiBR24L08F-1Y	AE		R	BR24L08F-WE2
⚠ Q701	VSSPA04N803-1	AL		R	FET, 04N803
Q201	VS2SC2735//1EY	AC		R	2SC2735
Q302	VS2PD601AR/-1Y	AB		R	2PD601AR
Q601	VS2SC2482//-1+	AD		R	2SC2482
⚠ Q602	VS2SD2539//1E	AP		R	Transistor
Q603	VS2PC1815G+-1+	AC		R	2PC1815G
Q604	VS2PD601AR/-1Y	AB		R	2PD601AR
Q703	VS2PC1815Y+-1+	AC		R	2PC1815Y
Q740	VS2PD601AR/-1Y	AB		R	2PD601AR
Q741	VS2PD601AR/-1Y	AB		R	2PD601AR
Q751	VS2SC2236Y/-1+	AD		R	2SC2236Y
Q752	VS2SC2236Y/-1+	AD		R	2SC2236Y
Q753	VS2PC1815G+-1+	AC		R	2PC1815G
Q754	VS2SC2236Y/-1+	AD		R	2SC2236Y
Q755	VS2PD601AR/-1Y	AB		R	2PD601AR
Q803	VS2PD601AR/-1Y	AB		R	2PD601AR
Q804	VS2PB709AR/-1Y	AB		R	2PB709AR
Q805	VS2PD601AR/-1Y	AB		R	2PD601AR
Q1001	VS2PD601AR/-1Y	AB		R	2PD601AR
Q1002	VS2PD601AR/-1Y	AB		R	2PD601AR
Q1070	VS2PD601AR/-1Y	AB		R	2PD601AR
Q1073	VS2PD601AR/-1Y	AB		R	2PD601AR
D201	RH-EX0676GEZZY	AA		R	Zener Diode, 32.5V
D203	VHD1SS119//-1Y	AA		R	Diode, 1SS119
D204	VHD1SS119//-1Y	AA		R	Diode, 1SS119
D393	RH-DX0247CEZZ	AE		R	Diode, DX0247CE
D502	RH-EX0652GEZZY	AB		R	Zener Diode, 17V
D503	RH-EX0612GEZZY	AB		R	Zener Diode, 5.2V
D504	RH-EX0654CEZZY	AD		R	Zener Diode, 7.5V
D505	RH-DX0441CEZZY	AC		R	Diode, DX0441CE
D510	RH-DX0131CEZZY	AC		R	Diode, DX0131CE
D601	VHD1SS119//-1Y	AA		R	Diode, 1SS119
D602	VHD1SS244//-1Y	AB		R	Diode, 1SS244
D603	RH-EX0662GEZZY	AB		R	Zener Diode, 24V
D604	VHD1SS119//-1Y	AA		R	Diode, 1SS119
D605	RH-EX0621GEZZY	AB		R	Zener Diode, 6.8V
D606	RH-DX0131CEZZY	AC		R	Diode, DX0131CE
D607	VHD1SS119//-1Y	AA		R	Diode, 1SS119
D608	RH-DX0131CEZZY	AC		R	Diode, DX0131CE
D610	VHD1SS119//-1Y	AA		R	Diode, 1SS119
D701	RH-DX0476CEZZ	AG		R	Diode, DX0476CE
D703	VHD1SS119//-1Y	AA		R	Diode, 1SS119
D708	VHD1SS119//-1Y	AA		R	Diode, 1SS119
D710	VHD1SS119//-1Y	AA		R	Diode, 1SS119
D711	VHD1SS119//-1Y	AA		R	Diode, 1SS119
D717	RH-EX0650GEZZY	AB		R	Zener Diode, 16.5V
D750	RH-EX0647CEZZY	AH		R	Shorted Avalanche Diode(With SCR)
D751	RH-DX0229CEZZ	AF		R	Diode, DX0229CE
D752	RH-DX0302CEZZY	AC		R	Diode, DX0229CE
D801	RH-EX0613GEZZY	AB		R	Zener Diode, 5.1V
D806	VHD1SS119//-1Y	AA		R	Diode, 1SS119
D808	VHD1SS119//-1Y	AA		R	Diode, 1SS119
D807	RH-EX0625GEZZY	AB		R	Zener Diode, 7.5V
D810	RH-EX0263TAZZY	AC		R	Zener Diode, 8.2V
D811	RH-EX0263TAZZY	AC		R	Zener Diode, 8.2V
D812	RH-EX0263TAZZY	AC		R	Zener Diode, 8.2V
D1001	RH-PX0013PEZZ	AC		R	Diode, Photo Diode
D1004	RH-EX0616GEZZY	AA		R	Zener Diode, 5.6V
D1040	RH-EX0611GEZZY	AA		R	Zener Diode, 5.1V
D1081	VHD1SS119//-1Y	AA		R	Diode, 1SS119
D1085	RH-EX0613GEZZY	AB		R	Zener Diode, 5.1V

NO.	PARTS CODE	PRICE RANK	NEW MARK	PART RANK	DESCRIPTION
[3] MAIN UNIT					
D1086	RH-EX0613GEZZY	AB		R	Zener Diode, 5.1V
D1087	RH-EX1393CEZZY	AB		R	Zener Diode, 5.1V
D1088	RH-EX1393CEZZY	AB		R	Zener Diode, 5.1V
D1089	RH-EX0613GEZZY	AB		R	Zener Diode, 5.1V
D1090	RH-EX0616GEZZY	AA		R	Zener Diode, 5.6V
D1091	VHD1SS119//-1Y	AA		R	Diode, 1SS119
D1092	RH-EX1393CEZZY	AB		R	Zener Diode, 5.1V
D1093	RH-EX1393CEZZY	AB		R	Zener Diode, 5.1V
D1094	VHD1SS119//-1Y	AA		R	Diode, 1SS119
VA701	RH-VX0073CEZZ	AD		R	Varistor
PR701	RMPTP0001PEZZ	AN		R	Packaged Circuit
X801	RCRSAA019WJZZ	AF		R	Crystal
L202	VP-CF270K0000Y	AB		R	Peaking, 27MH
L203	VP-DF270K0000Y	AB		R	Peaking, 27MH
L204	VP-XF1R2K0000Y	AB		R	Peaking, 1.2MH
L602	RCiLP0223CEZZ	AE		R	Coil
L603	RCiLZA006WJZZ	AH		R	Coil
L701	RCiLF0086PEN1	AF		R	Coil
L751	RCiLP0179CEZZ+	AD		R	Coil
L801	VP-CF220K0000Y	AB		R	Peaking, 22MH
L802	VP-DF100K0000Y	AB		R	Peaking, 10MH
L803	VP-DF100K0000Y	AB		R	Peaking, 10MH
L806	VP-DF100K0000Y	AB		R	Peaking, 10MH
L808	VP-XF330K0000Y	AB		R	Peaking, 33MH
SF201	RFiLC0442CEZZ	AL		R	Filter
⚠ T601	RTRNZ0026PEZZ	AH		R	Transformer
⚠ T602	RTRNFA071WJZZ	AX		R	H-Volt Transformer
⚠ T701	RTRNWA076WJZZ	AM		R	Transformer
C201	VCEA0A1CW476M+	AB		R	47 16V Electrolytic
C202	VCEA0A0JW108M+	AC		R	1000 6.3V Electrolytic
C203	VCKYCY1HF103ZY	AA		R	0.01 50V Ceramic
C205	VCKYCY1HF103ZY	AA		R	0.01 50V Ceramic
C206	VCEA0A1HW106M+	AB		R	10 50V Electrolytic
C207	VCKYPA1HB103K+	AA		R	0.01 50V Ceramic
C208	VCKYCY1HF103ZY	AA		R	0.01 50V Ceramic
C209	VCKYCY1HF103ZY	AA		R	0.01 50V Ceramic
C210	VCKYCY1HF103ZY	AA		R	0.01 50V Ceramic
C212	VCKYCY1HF103ZY	AA		R	0.01 50V Ceramic
C213	VCKYCY1HB102KY	AA		R	1000p 50V Ceramic
C301	VCEA0A1CW477M+	AC		R	470 16V Electrolytic
C302	VCEA0A1CW106M+	AB		R	10 16V Electrolytic
C304	VCEA0A1CW106M+	AB		R	10 16V Electrolytic
C310	VCEA0A1HW225M+	AB		R	2.2 50V Electrolytic
C311	VCEA0A1HW105M+	AB		R	1 50V Electrolytic
C312	VCEA0A1HW105M+	AB		R	1 50V Electrolytic
C313	VCKYCY1HB392KY	AA		R	3900p 50V Ceramic
C377	VCEA0A1CW107M+	AC		R	100 16V Electrolytic
C383	VCEA0A1CW106M+	AB		R	10 16V Electrolytic
C391	VCKYPA1HB102K+	AA		R	1000p 50V Ceramic
C392	VCQYTA1HM103J+	AB		R	0.01 50V Mylar
C393	VCEA0A1EW108M	AD		R	1000 25V Electrolytic
C451	VCEA0A1CW477M+	AC		R	470 16V Electrolytic
C505	VCEA0A1HW107M+	AB		R	100 50V Electrolytic
C508	VCFYAA2AA224J+	AD		R	0.22 100V
C509	VCKYD41CY103NY	AB		R	0.01 16V Ceramic
C510	RC-EZA332WJZZ	AD		R	
C511	VCEA0A1VW477M	AB		R	470 35V Electrolytic
C512	VCKYPA2HB102K+	AA		R	1000p 500V Ceramic
C514	VCFYSA1JB273J+	AC		R	0.027 63V
C515	VCEACA1HC335J+	AC		R	3.3 50V Electrolytic
C518	VCKYCY1HF103ZY	AA		R	0.01 50V Ceramic
C601	VCQYTA1HM563J+	AB		R	0.056 50V Mylar
C602	VCEA0A1HW475M+	AB		R	4.7 50V Electrolytic
C603	VCEA0A1HW105M+	AB		R	1 50V Electrolytic
C604	VCEAGA2EW336M	AD		R	33 250V Electrolytic
C605	VCKYPA2HB102K+	AA		R	1000p 500V Ceramic
C606	VCKYPA2HB102K+	AA		R	1000p 500V Ceramic
⚠ C607	VCFPVC3ZA902H	AD		R	9000p 1800V Metalized Polypro Film
C608	VCKYPA2HB561K+	AA		R	560p 500V Ceramic
C610	VCFYSB2EB823J	AD		R	0.082 250V Metalized Plastic Film
C611	VCFPVC2DB244J	AD		R	0.24 200V Metalized Polypro Film
C642	VCEA0A1EW476M+	AB		R	47 25V Electrolytic
C643	VCEA0A1CW108M+	AD		R	1000 16V Electrolytic
C641	VCEA0A1EW108M	AD		R	1000 25V Electrolytic
C650	VCKYPA2HB101K+	AB		R	100p 500V Ceramic
C701	RC-FZ032SCEZZ	AD		R	0.22 275V Metalized Polypropylene Film
C702	RC-KZ0029CEZZ+	AC		R	0.01 250V Ceramic
C703	RC-KZ0029CEZZ+	AC		R	0.01 250V Ceramic
C704	RC-KZ0029CEZZ	AC		R	0.01 250V Ceramic
C705	RC-EZA097WJZZ	AM		R	220 400V Electrolytic
C706	VCQYTA1HM103J+	AB		R	0.01 50V Mylar
C708	RC-FZ031SCEZZ	AD		R	0.1 275V Metalized Plastic Film
⚠ C711	VCFYFA1HA334J+	AB		R	0.33 50V Metalized Plastic Film
C713	RC-KZ0107GEZZ	AE		R	3900p 250V Ceramic
C718	VCKYPA2HB472K+	AB		R	4700p 500V Ceramic

NO.	PARTS CODE	PRICE RANK	NEW MARK	PART RANK	DESCRIPTION
[3] MAIN UNIT					
C735	VCQYTA1HM104J+	AB		R	0.1 50V Mylar
C737	VCEA0A1EW226M+	AB		R	22 25V Electrolytic
C738	RC-KZ0040CEZZ	AD		R	820p 2kV Ceramic
C743	VCKYPH3DB561K	AC		R	560p 2000V Ceramic
C752	VCKYPH3DB561K	AC		R	560p 2000V Ceramic
C753	RC-EZ0724CEZZ	AG		R	100 160V Electrolytic
C754	RC-EZ0638CEZZ	AG		R	33 160V Electrolytic
C755	VCEA0A1EW108M	AD		R	1000 25V Electrolytic
C756	VCEA0A1EW228M	AF		R	2200 25V Electrolytic
C758	VCEA0A1HW225M+	AB		R	2.2 50V Electrolytic
C759	VCKYCY1HB102KY	AA		R	1000p 50V Ceramic
C784	VCKYCY1HB103KY	AA		R	0.01 50V Ceramic
C801	VCFYFA1HA105J+	AE		R	1 50V Metalized Plastic Film
C802	VCKYCY1HF103ZY	AA		R	0.01 50V Ceramic
C803	VCEA0A1CW108M+	AD		R	1000 16V Electrolytic
C804	VCKYCY1HF103ZY	AA		R	0.01 50V Ceramic
C805	VCEA9M1HW105M+	AB		R	1 50V Electrolytic
C806	VCKYCY1HF103ZY	AA		R	0.01 50V Ceramic
C807	VCEA0A1CW108M+	AD		R	1000 16V Electrolytic
C808	VCKYCY1HF103ZY	AA		R	0.01 50V Ceramic
C809	VCKYCY1HF103ZY	AA		R	0.01 50V Ceramic
C810	VCKYCY1HF103ZY	AA		R	0.01 50V Ceramic
C813	VCCCCY1HH181JY	AA		R	180p 50V Ceramic
C814	VCKYCY1HF103ZY	AA		R	0.01 50V Ceramic
C815	VCKYCY1HF103ZY	AA		R	0.01 50V Ceramic
C817	VCEA0A1AW107M+	AB		R	100 10V Electrolytic
C818	VCEA9M1HW475M+	AB		R	4.7 50V Electrolytic
C819	VCCCCY1HH121JY	AA		R	120p 50V Ceramic
C820	VCEA0A1HW474M+	AB		R	0.47 50V Electrolytic
C821	VCKYCY1HF153ZY	AA		R	0.015 50V Ceramic
C822	VCE9GA1HW105M+	AB		R	1 50V Electrolyt (N.P)
C823	VCKYCY1HF103ZY	AA		R	0.01 50V Ceramic
C824	VCEA0A1CW337M+	AC		R	330 16V Electrolytic
C825	VCE9GA1HW105M+	AB		R	1 50V Electrolyt (N.P)
C826	VCKYCY1HF103ZY	AA		R	0.01 50V Ceramic
C827	VCEA0A1CW477M+	AC		R	470 16V Electrolytic
C828	VCKYCY1HF103ZY	AA		R	0.01 50V Ceramic
C829	VCEA0A1CW476M+	AB		R	47 16V Electrolytic
C830	VCKYCY1CB104KY	AB		R	0.1 16V Ceramic
C832	VCKYCY1CB104KY	AB		R	0.1 16V Ceramic
C834	VCEA0A1CW107M+	AC		R	100 16V Electrolytic
C835	VCEA0A1CW106M+	AB		R	10 16V Electrolytic
C837	VCEA0A1HW105M+	AB		R	1 50V Electrolytic
C838	VCEA0A1CW106M+	AB		R	10 16V Electrolytic
C839	VCKYCY1HB392KY	AA		R	3900p 50V Ceramic
C840	VCKYCY1EF104ZY	AA		R	0.1 25V Ceramic
C841	VCCCCY1HH220JY	AA		R	22p 50V Ceramic
C842	VCEA9M1HW474M+	AB		R	0.47 50V Electrolytic
C843	VCEA9M1HW105M+	AB		R	1 50V Electrolytic
C844	VCEA9M1HW475MY	AA		R	0.1 16V Ceramic
C845	VCEA9M1HW476M+	AB		R	0.22 50V
C847	VCCCCY1HH220JY	AA		R	22p 50V Ceramic
C1001	VCEA9M1HW477M+	AB		R	100 6.3V Electrolytic
C1002	VCQYTA1HM103J+	AB		R	0.01 50V Mylar
C1003	VCEA0A1CW106M+	AB		R	10 16V Electrolytic
C1004	VCEA9M1HW479MY	AB		R	0.47 16V Ceramic
C1005	VCEA0A1CW106M+	AB		R	10 16V Electrolytic
C1006	VCEA0A1HW225M+	AB		R	2.2 50V Electrolytic
C1007	VCEA9M1HW480M+	AB		R	100 16V Electrolytic
C1008	VCKYCY1HF103ZY	AA		R	0.01 50V Ceramic
C1009	VCKYCY1HF103ZY	AA		R	0.01 50V Ceramic
C1011	VCEA9M1HW481MY	AA		R	220p 50V Ceramic
C1012	VCEA0A1HW105M+	AB		R	1 50V Electrolytic
C1014	VCEA0A1HW475M+	AB		R	4.7 50V Electrolytic
C1015	VCEA9M1HW482MY	AA		R	100p 50V Ceramic
C1081	VCQYTA1HM104J+	AB		R	0.1 50V Mylar
C1801	VCEA0A1CW106M+	AB		R	10 16V Electrolytic
C1805	VCEA9M1HW483MY	AA		R	220p 50V Ceramic
C1856	VCKYCY1HB102KY	AA		R	1000p 50V Ceramic
C1857	VCFYFA1HA105J+	AE		R	1 50V Metalized Plastic Film
C1867	VCEA9M1HW484MY	AA		R	15p 50V Ceramic
C1868	VCEA9M1HW478M+	AB		R	100 6.3V Electrolytic
RJ1	VRS-CY1JF000JY	AA		R	0 1/16W Metal Oxide
RJ4	VRS-CY1JF000JY	AA		R	0 1/16W Metal Oxide
RJ6	VRS-CY1JF000JY	AA		R	0 1/16W Metal Oxide
RJ7	VRS-CY1JF000JY	AA		R	0 1/16W Metal Oxide
RJ8	VRS-CY1JF000JY	AA		R	0 1/16W Metal Oxide
RJ9	VRS-CY1JF000JY	AA		R	0 1/16W Metal Oxide
RJ10	VRS-CY1JF000JY	AA		R	0 1/16W Metal Oxide
RJ11	VRS-CY1JF000JY	AA		R	0 1/16W Metal Oxide
RJ13	VRS-CY1JF000JY	AA		R	0 1/16W Metal Oxide
RJ14	VRS-CY1JF000JY	AA		R	0 1/16W Metal Oxide
RJ15	VRS-CY1JF000JY	AA		R	0 1/16W Metal Oxide
RJ17	VRS-CY1JF000JY	AA		R	0 1/16W Metal Oxide
RJ18	VRS-CY1JF000JY	AA		R	0 1/16W Metal Oxide

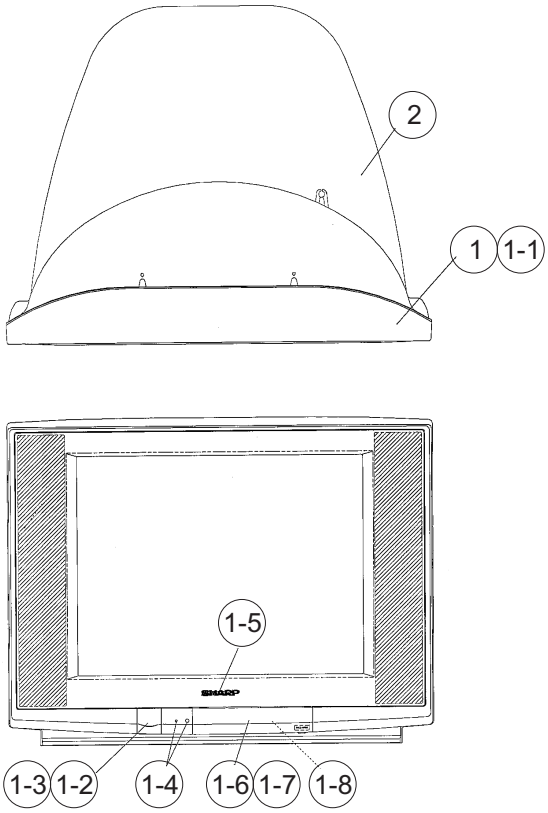
NO.	PARTS CODE	PRICE RANK	NEW MARK	PART RANK	DESCRIPTION
[3] MAIN UNIT					
RJ19	VRS-CY1JF000JY	AA		R	0 1/16W Metal Oxide
RJ20	VRS-CY1JF000JY	AA		R	0 1/16W Metal Oxide
RJ21	VRS-CY1JF000JY	AA		R	0 1/16W Metal Oxide
RJ22	VRS-CY1JF000JY	AA		R	0 1/16W Metal Oxide
RJ23	VRS-CY1JF000JY	AA		R	0 1/16W Metal Oxide
RJ25	VRS-CY1JF000JY	AA		R	0 1/16W Metal Oxide
RJ27	VRS-CY1JF000JY	AA		R	0 1/16W Metal Oxide
RJ29	VRS-CY1JF000JY	AA		R	0 1/16W Metal Oxide
RJ31	VRS-CY1JF000JY	AA		R	0 1/16W Metal Oxide
RJ32	VRS-CY1JF000JY	AA		R	0 1/16W Metal Oxide
RJ33	VRS-CY1JF000JY	AA		R	0 1/16W Metal Oxide
RJ34	VRS-CY1JF000JY	AA		R	0 1/16W Metal Oxide
RJ37	VRS-CY1JF000JY	AA		R	0 1/16W Metal Oxide
RJ38	VRS-CY1JF000JY	AA		R	0 1/16W Metal Oxide
RJ40	VRS-CY1JF000JY	AA		R	0 1/16W Metal Oxide
RJ45	VRS-CY1JF000JY	AA		R	0 1/16W Metal Oxide
RJ47	VRS-CY1JF000JY	AA		R	0 1/16W Metal Oxide
RJ48	VRS-CY1JF000JY	AA		R	0 1/16W Metal Oxide
RJ49	VRS-CY1JF000JY	AA		R	0 1/16W Metal Oxide
RJ52	VRS-CY1JF000JY	AA		R	0 1/16W Metal Oxide
RJ53	VRS-CY1JF000JY	AA		R	0 1/16W Metal Oxide
RJ55	VRS-CY1JF000JY	AA		R	0 1/16W Metal Oxide
RJ56	VRS-CY1JF000JY	AA		R	0 1/16W Metal Oxide
RJ57	VRS-CY1JF000JY	AA		R	0 1/16W Metal Oxide
RJ58	VRS-CY1JF000JY	AA		R	0 1/16W Metal Oxide
RJ61	VRS-CY1JF000JY	AA		R	0 1/16W Metal Oxide
RJ67	VRS-CY1JF000JY	AA		R	0 1/16W Metal Oxide
RJ70	VRS-CY1JF000JY	AA		R	0 1/16W Metal Oxide
RJ186	VRS-CY1JF000JY	AA		R	0 1/16W Metal Oxide
R201	VRS-CY1JF101JY	AA		R	100 1/16W Metal Oxide
R202	VRS-CY1JF101JY	AA		R	100 1/16W Metal Oxide
R205	VRS-CY1JF680JY	AA		R	68 1/16W Metal Oxide
R206	VRS-CY1JF122JY	AA		R	1.2k 1/16W Metal Oxide
R207	VRS-CY1JF221JY	AA		R	220 1/16W Metal Oxide
R208	VRS-CY1JF681JY	AA		R	680 1/16W Metal Oxide
R209	VRS-CY1JF392JY	AA		R	3.9k 1/16W Metal Oxide
R216	VRS-VV3LB333JY	AB		R	33k 3W Metal Oxide
R220	VRS-CY1JF221JY	AA		R	220 1/16W Metal Oxide
R302	VRN-VV3DBR33JY	AA		R	0.33 2W Metal Film
R304	VRD-RA2BE683JY	AA		R	68k 1/8W Carbon
R305	VRS-CY1JF274JY	AA		R	270k 1/16W Metal Oxide
R310	VRS-CY1JF473JY	AA		R	47k 1/16W Metal Oxide
R311	VRD-RA2BE272JY	AA		R	2.7k 1/8W Carbon
R313	VRS-CY1JF102JY	AA		R	1k 1/16W Metal Oxide
R314	VRS-CY1JF472JY	AA		R	4.7k 1/16W Metal Oxide
R315	VRS-CY1JF222JY	AA		R	2.2k 1/16W Metal Oxide
R318	VRD-RA2BE680JY	AA		R	68 1/8W Carbon
R321	VRS-CY1JF681JY	AA		R	680 1/16W Metal Oxide
R353	VRS-CY1JF102JY	AA		R	1k 1/16W Metal Oxide
R364	VRS-CY1JF000JY	AA		R	0 1/16W Metal Oxide
R370	VRS-CY1JF221JY	AA		R	220 1/16W Metal Oxide
R371	VRD-RA2BE221JY	AA		R	220 1/8W Carbon
R372	VRS-CY1JF104JY	AA		R	100k 1/16W Metal Oxide
R375	VRS-CY1JF103JY	AA		R	10k 1/16W Metal Oxide
R377	VRS-CY1JF101JY	AA		R	100 1/16W Metal Oxide
R379	VRS-CY1JF103JY	AA		R	10k 1/16W Metal Oxide
R383	VRS-CY1JF564JY	AA		R	560k 1/16W Metal Oxide
R384	VRD-RA2BE332JY	AA		R	3.3k 1/8W Carbon
R431	VRS-CY1JF101JY	AA		R	100 1/16W Metal Oxide
R432	VRS-CY1JF750JY	AA		R	75 1/16W Metal Oxide
R458	VRS-CY1JF103JY	AA		R	10k 1/16W Metal Oxide
R459	VRD-RA2EE750JY	AA		R	75 1/4W Carbon
R503	VRN-VV3DB1R2JY	AA		R	1.2 2W Metal Film
R504	VRS-CY1JF222JY	AA		R	2.2k 1/16W Metal Oxide
R506	VRS-VV3AB331JY	AA		R	330 1W Metal Oxide
R507	VRD-RM2HD1R0JY	AA		R	1 1/2W Carbon
R513	VRD-RM2HD333JY	AB		R	33k 1/2W Carbon
R514	VRD-RM2HD682JY	AA		R	6.8k 1/2W Carbon
R520	VRS-CY1JF123JY	AA		R	12k 1/16W Metal Oxide
R522	VRS-CY1JF101JY	AA		R	100 1/16W Metal Oxide
R523	VRD-RA2BE101JY	AA		R	100 1/8W Carbon
R524	VRS-CY1JF103JY	AA		R	10k 1/16W Metal Oxide
R525	VRD-RA2BE122JY	AA		R	1.2k 1/8W Carbon
R526	VRD-RA2BE101JY	AA		R	100 1/8W Carbon
R528	VRS-CY1JF683JY	AA		R	68k 1/16W Metal Oxide
R601	VRS-SV2HC102JY	AA		R	1k 1/2W Metal Oxide
R602	VRD-RA2BE393JY	AA		R	39k 1/8W Carbon
R603	VRD-RA2BE473JY	AA		R	47k 1/8W Carbon
R604	VRD-RA2BE473JY	AA		R	47k 1/8W Carbon
R605	VRD-RM2HD104JY	AA		R	100k 1/2W Carbon
R606	VRN-VV3LBR27J	AC		R	0.27 3W Metal Film
R607	VRD-RA2BE103JY	AA		R	10k 1/8W Carbon
⚠ R611	VRN-VV3ABR27JY	AA		R	0.27 1W Metal Film
R612	VRD-RM2HD270JY	AA		R	27 1/2W Carbon
R614	VRD-RA2BE154JY	AA		R	150k 1/8W Carbon

NO.	PARTS CODE	PRICE RANK	NEW MARK	PART RANK	DESCRIPTION
[3] MAIN UNIT					
R615	VRD-RA2BE102JY	AA		R	1k 1/8W Carbon
R616	VRD-RA2BE102JY	AA		R	1k 1/8W Carbon
R617	VRS-CY1JF123JY	AA		R	12k 1/16W Metal Oxide
R618	VRS-CY1JF103JY	AA		R	10k 1/16W Metal Oxide
R619	VRS-CY1JF103JY	AA		R	10k 1/16W Metal Oxide
R620	VRS-CY1JF333J	AA		R	33k 1/16W Metal Oxide
R621	VRN-SV2HC4R7J	AB		R	4.7 1/2W Metal Film
R622	VRS-VV3DB682J	AA		R	6.8k 2W Metal Oxide
R631	VRS-KT3LB391J	AD		R	390 3W Metal Oxide
R632	VRS-VV3LB122J	AB		R	1.2k 3W Metal Oxide
⚠ R633	VRS-KA3NG3R3K	AD		R	3.3 7.0W Metal Oxide
R636	VRS-KA3HG912J	AD		R	9.1k 5W Metal Oxide
R637	VRD-RA2BE331JY	AA		R	330 1/8W Carbon
R638	VRD-RA2BE331JY	AA		R	330 1/8W Carbon
R639	VRD-RM2HD562J	AA		R	5.6k 1/2W Carbon
R653	VRD-RM2HD184JY	AA		R	180k 1/2W Carbon
R654	VRS-CY1JF472JY	AA		R	4.7k 1/16W Metal Oxide
R661	VRD-RA2BE102JY	AA		R	1k 1/8W Carbon
R662	VRS-CY1JF103JY	AA		R	10k 1/16W Metal Oxide
R701	VRW-KQ3NC1R5KY	AE		R	1.5 7.0W Cement
R702	VRD-RM2HD100JY	AA		R	10 1/2W Carbon
R705	VRN-VV3DBR27JY	AB		R	0.27 2W Metal Film
R706	VRN-VV3DBR27JY	AB		R	0.27 2W Metal Film
R707	VRD-RM2HD270JY	AA		R	27 1/2W Carbon
R708	VRD-RA2BE102JY	AA		R	1k 1/8W Carbon
R710	VRS-SV2HC103JY	AA		R	10k 1/2W Metal Oxide
R711	VRD-RA2BE394JY	AA		R	390k 1/8W Carbon
R713	VRD-RM2HD122JY	AA		R	1.2k 1/2W Carbon
R715	VRD-RA2BE150JY	AA		R	15 1/8W Carbon
R716	VRD-RA2BE223JY	AA		R	22k 1/8W Carbon
R718	VRC-UA2HG275KY	AC		R	2.7 M 1/2W Solid
R725	VRD-RM2HD821JY	AA		R	820 1/2W Carbon
R726	VRN-SV2HCR47JY	AA		R	0.47 1/2W Metal Film
R742	VRD-RA2BE183JY	AA		R	18k 1/8W Carbon
R743	VRS-CY1JF332JY	AA		R	3.3k 1/16W Metal Oxide
R744	VRS-CY1JF332JY	AA		R	3.3k 1/16W Metal Oxide
R745	VRS-CY1JF822JY	AA		R	8.2k 1/16W Metal Oxide
R746	VRD-RA2BE223JY	AA		R	22k 1/8W Carbon
R751	VRC-UA2HG825KY	AA		R	8.2 M 1/2W Solid
R752	VRC-UA2HG825KY	AA		R	8.2 M 1/2W Solid
R753	VRD-RM2HD334JY	AA		R	330k 1/2W Carbon
R754	VRS-KA3NG220JY	AD		R	22 7.0W Metal Oxide
R755	VRS-VV3DB150JY	AA		R	15 2W Metal Oxide
R756	VRS-VV3DB101JY	AA		R	100 2W Metal Oxide
R760	VRD-RA2BE123JY	AA		R	12k 1/8W Carbon
R766	VRS-CY1JF333JY	AA		R	33k 1/16W Metal Oxide
R768	VRS-CY1JF332JY	AA		R	3.3k 1/16W Metal Oxide
R801	VRD-RA2BE273JY	AA		R	27k 1/8W Carbon
R802	VRS-CY1JF682JY	AA		R	6.8k 1/16W Metal Oxide
R803	VRS-CY1JF103JY	AA		R	10k 1/16W Metal Oxide
R804	VRS-CY1JF222JY	AA		R	2.2k 1/16W Metal Oxide
R805	VRS-CY1JF222JY	AA		R	2.2k 1/16W Metal Oxide
R806	VRS-CY1JF222JY	AA		R	2.2k 1/16W Metal Oxide
R807	VRS-CY1JF222JY	AA		R	2.2k 1/16W Metal Oxide
R811	VRS-CY1JF101JY	AA		R	100 1/16W Metal Oxide
R812	VRS-CY1JF101JY	AA		R	100 1/16W Metal Oxide
R814	VRS-CY1JF473JY	AA		R	47k 1/16W Metal Oxide
R815	VRS-CY1JF473JY	AA		R	47k 1/16W Metal Oxide
R816	VRS-CY1JF223JY	AA		R	22k 1/16W Metal Oxide
R817	VRS-CY1JF473JY	AA		R	47k 1/16W Metal Oxide
R818	VRS-VV3AB101JY	AA		R	100 1W Metal Oxide
R823	VRD-RA2BE101JY	AA		R	100 1/8W Carbon
R824	VRD-RA2BE101JY	AA		R	100 1/8W Carbon
R827	VRD-RA2BE102JY	AA		R	1k 1/8W Carbon
R829	VRS-CY1JF472JY	AA		R	4.7k 1/16W Metal Oxide
R830	VRS-CY1JF393JY	AA		R	39k 1/16W Metal Oxide
R831	VRS-CY1JF331JY	AA		R	330 1/16W Metal Oxide
R832	VRS-CY1JF822JY	AA		R	8.2k 1/16W Metal Oxide
R833	VRS-CY1JF220JY	AA		R	22 1/16W Metal Oxide
R835	VRS-CY1JF102JY	AA		R	1k 1/16W Metal Oxide
R836	VRD-RA2BE470JY	AA		R	47 1/8W Carbon
R837	VRD-RM2HD151JY	AA		R	150 1/2W Carbon
R838	VRS-CY1JF105JY	AA		R	1 M 1/16W Metal Oxide
R839	VRS-CY1JF101JY	AA		R	100 1/16W Metal Oxide
R840	VRS-CY1JF124JY	AA		R	120k 1/16W Metal Oxide
R843	VRD-RA2BE103JY	AA		R	10k 1/8W Carbon
R844	VRD-RA2BE101JY	AA		R	100 1/8W Carbon
R1002	VRS-CY1JF183JY	AA		R	18k 1/16W Metal Oxide
R1003	VRS-CY1JF822JY	AA		R	8.2k 1/16W Metal Oxide
R1006	VRS-CY1JF822JY	AA		R	8.2k 1/16W Metal Oxide
R1007	VRS-CY1JF103JY	AA		R	10k 1/16W Metal Oxide
R1008	VRS-CY1JF183JY	AA		R	18k 1/16W Metal Oxide
R1009	VRD-RA2BE103JY	AA		R	10k 1/8W Carbon
R1012	VRS-CY1JF391JY	AA		R	390 1/16W Metal Oxide
R1021	VRS-CY1JF101JY	AA		R	100 1/16W Metal Oxide

NO.	PARTS CODE	PRICE RANK	NEW MARK	PART RANK	DESCRIPTION
[3] MAIN UNIT					
R1022	VRS-CY1JF101JY	AA		R	100 1/16W Metal Oxide
R1023	VRD-RA2BE271JY	AA		R	270 1/8W Carbon
R1024	VRS-CY1JF101JY	AA		R	100 1/16W Metal Oxide
R1027	VRS-CY1JF104JY	AA		R	100k 1/16W Metal Oxide
R1031	VRS-CY1JF101JY	AA		R	100 1/16W Metal Oxide
R1032	VRS-CY1JF332JY	AA		R	3.3k 1/16W Metal Oxide
R1033	VRD-RA2BE472JY	AA		R	4.7k 1/8W Carbon
R1034	VRS-CY1JF103JY	AA		R	10k 1/16W Metal Oxide
R1036	VRD-RA2BE103JY	AA		R	10k 1/8W Carbon
R1037	VRD-RA2BE103JY	AA		R	10k 1/8W Carbon
R1038	VRS-CY1JF562JY	AA		R	5.6k 1/16W Metal Oxide
R1039	VRS-CY1JF102JY	AA		R	1k 1/16W Metal Oxide
R1040	VRD-RA2BE103JY	AA		R	10k 1/8W Carbon
R1042	VRD-RA2BE101JY	AA		R	100 1/8W Carbon
R1043	VRS-CY1JF104JY	AA		R	100k 1/16W Metal Oxide
R1045	VRD-RA2BE101JY	AA		R	100 1/8W Carbon
R1046	VRS-CY1JF101JY	AA		R	100 1/16W Metal Oxide
R1047	VRD-RA2BE183JY	AA		R	18k 1/8W Carbon
R1048	VRS-CY1JF101JY	AA		R	100 1/16W Metal Oxide
R1049	VRD-RA2BE183JY	AA		R	18k 1/8W Carbon
R1050	VRD-RA2BE101JY	AA		R	100 1/8W Carbon
R1051	VRS-CY1JF101JY	AA		R	100 1/16W Metal Oxide
R1052	VRS-CY1JF104JY	AA		R	100k 1/16W Metal Oxide
R1055	VRS-CY1JF332JY	AA		R	3.3k 1/16W Metal Oxide
R1056	VRS-CY1JF332JY	AA		R	3.3k 1/16W Metal Oxide
R1059	VRS-CY1JF103JY	AA		R	10k 1/16W Metal Oxide
R1061	VRS-CY1JF102JY	AA		R	1k 1/16W Metal Oxide
R1063	VRS-CY1JF103JY	AA		R	10k 1/16W Metal Oxide
R1064	VRD-RA2BE103JY	AA		R	10k 1/8W Carbon
R1065	VRD-RA2BE103JY	AA		R	10k 1/8W Carbon
R1066	VRS-CY1JF472JY	AA		R	4.7k 1/16W Metal Oxide
R1072	VRS-CY1JF221JY	AA		R	220 1/16W Metal Oxide
R1073	VRS-CY1JF101JY	AA		R	100 1/16W Metal Oxide
R1074	VRS-CY1JF332JY	AA		R	3.3k 1/16W Metal Oxide
R1076	VRS-CY1JF102JY	AA		R	1k 1/16W Metal Oxide
R1078	VRS-CY1JF332JY	AA		R	3.3k 1/16W Metal Oxide
R1079	VRS-CY1JF332JY	AA		R	3.3k 1/16W Metal Oxide
R1087	VRD-RA2BE391JY	AA		R	390 1/8W Carbon
R1090	VRS-CY1JF101JY	AA		R	100 1/16W Metal Oxide
R1091	VRS-CY1JF103JY	AA		R	10k 1/16W Metal Oxide
R1095	VRS-CY1JF101JY	AA		R	100 1/16W Metal Oxide
R1840	VRS-CY1JF395JY	AA		R	3.9 M 1/16W Metal Oxide
R1841	VRS-CY1JF395JY	AA		R	3.9 M 1/16W Metal Oxide
R1850	VRS-CY1JF681JY	AA		R	680 1/16W Metal Oxide
R1851	VRS-CY1JF101JY	AA		R	100 1/16W Metal Oxide
R1852	VRS-CY1JF101JY	AA		R	100 1/16W Metal Oxide
R1853	VRS-CY1JF101JY	AA		R	100 1/16W Metal Oxide
R1854	VRS-CY1JF103JY	AA		R	10k 1/16W Metal Oxide
R1855	VRD-RA2BE122JY	AA		R	1.2k 1/8W Carbon
R1856	VRS-CY1JF223JY	AA		R	22k 1/16W Metal Oxide
R1892	VRS-CY1JF562JY	AA		R	5.6k 1/16W Metal Oxide
R1894	VRS-CY1JF103JY	AA		R	10k 1/16W Metal Oxide
R1895	VRS-CY1JF103JY	AA		R	10k 1/16W Metal Oxide
R1896	VRD-RA2BE393JY	AA		R	39k 1/8W Carbon
R1897	VRS-CY1JF102JY	AA		R	1k 1/16W Metal Oxide
R1898	VRS-CY1JF152JY	AA		R	1.5k 1/16W Metal Oxide
⚠ RY701	RRLYJ0093CEZZ	AG		R	RELAY
S701	QSW-PA006WJZZ	AG		R	Switch,
S1001	QSW-K0079GEZZ+	AB		R	Switch, CH DUP
S1002	QSW-K0079GEZZ+	AB		R	Switch, CH DOWN
S1003	QSW-K0079GEZZ+	AB		R	Switch, VOL UP
S1004	QSW-K0079GEZZ+	AB		R	Switch, VOL DOWN
S1005	QSW-K0079GEZZ+	AB		R	Switch, MENU
⚠ F701	QFS-C3225CEZZ	AC		R	Fuse, 3.15A 250V
FB701	RBLN-0095GEZZ+	AC		R	Balun
⚠ FB703	RBLN-0037CEZZY	AB		R	Balun
FB751	RBLN-0037CEZZY	AB		R	Balun
FH701	QFSHD1013CEZZ+	AC		R	Fuse Holder
FH702	QFSHD1014CEZZ+	AC		R	Fuse Holder
J352	QJAKJ0101SEZZ	AE		R	Jack, 7Pin
J405	QJAKHA004WJZZ	AE		R	AV-2 In Jack
J407	QJAKFA026WJZZ	AF		R	AV-In Jack
P301	QPLGNA109WJZZ	AB		R	Plug, 4Pin (S)
P401	QCNW-C619WJZZ	AF		R	Connecting Cord
P403	QPLGNA107WJZZ	AA		R	Plug, 2Pin (FV)
P404	QPLGNA107WJZZ	AA		R	Plug,
P601	QPLGN0660CEZZ	AC		R	Plug, 6Pin (F)
P602	QPLGNA110WJZZ	AB		R	Plug, 5Pin (H)
P701	QPLGN0260CEZZ	AC		R	Plug, 2Pin
P702	QPLGN0269GEZZ	AB		R	Plug,
P1001	QPLGNA136WJZZ	AB		R	Plug, 5Pin (K)
P1002	QPLGNA110WJZZ	AB		R	Plug,
RMC1001	RRMCUA009WJZZ	AF		R	Remote Reciever
RDA302	PRDAR0248PEFW	AF		R	Heat Sink
⚠ RDA501	PRDARA010WJFW	AD		R	Heat Sink

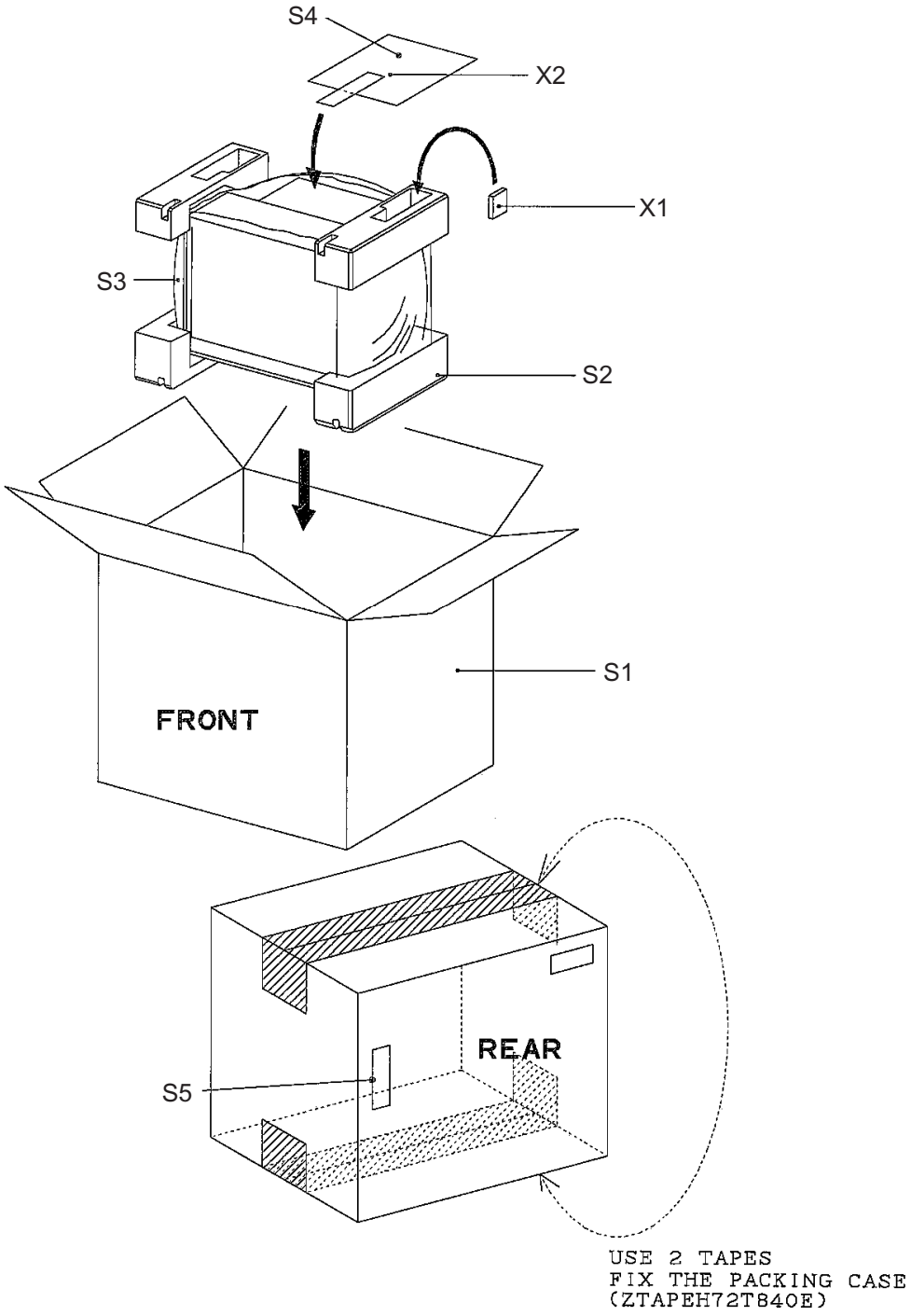
	NO.	PARTS CODE	PRICE RANK	NEW MARK	PART RANK	DESCRIPTION
	[3] MAIN UNIT					
⚠	RDA602	PRDAR0224PEFW	AF		R	Heat Sink
⚠	RDA701	PRDARA026WJFW	AE		R	Heat Sink
	[4] CRT UNIT					
						PWB-B: DUNTKA599WEG8
	Q853	VS2SC3789//2E	AF		R	2SC3789
	Q854	VS2SC3789//2E	AF		R	2SC3789
	Q855	VS2SC3789//2E	AF		R	2SC3789
	Q894	VS2PA1015Y+-1+	AC		R	2PA1015Y
	D859	VHD1SS119//-1Y	AA		R	Diode, 1SS119
	D898	VHD1SS119//-1Y	AA		R	Diode, 1SS119
	D896	RH-EX0616GEZZY	AA		R	Zener Diode
	L851	VP-MK820K0000+	AB		R	Peaking, 82MH
	C851	VCKYPA1HB391K+	AA		R	390p 50V Ceramic
	C852	VCKYPA1HB271K+	AB		R	270p 50V Ceramic
	C853	VCKYPA1HB221K+	AA		R	220p 50V Ceramic
	C880	RC-KZ0153CEZZ	AB		R	1000p 3kV Ceramic
	C893	VCEA0A1CW336M+	AB		R	33 16V Electrolytic
	R849	VRD-RA2BE271JY	AA		R	270 1/8W Carbon
	R850	VRD-RA2BE470JY	AA		R	47 1/8W Carbon
	R851	VRD-RA2BE470JY	AA		R	47 1/8W Carbon
	R852	VRD-RA2BE470JY	AA		R	47 1/8W Carbon
	R854	VRD-RA2BE271JY	AA		R	270 1/8W Carbon
	R855	VRD-RA2BE271JY	AA		R	270 1/8W Carbon
⚠	R859	VRS-VV3DB123J	AA		R	12K 2W Metal Oxide
	R864	VRD-RA2BE470JY	AA		R	47 1/8W Carbon
⚠	R861	VRS-VV3DB123J	AA		R	12K 2W Metal Oxide
⚠	R863	VRS-VV3DB123J	AA		R	12K 2W Metal Oxide
	R876	VRD-RA2BE121JY	AA		R	120 1/8W Carbon
	R877	VRD-RA2BE121JY	AA		R	120 1/8W Carbon
	R878	VRD-RA2BE121JY	AA		R	120 1/8W Carbon
	R880	VRD-RM2HD332JY	AA		R	3.3k 1/2W Carbon
	R881	VRD-RM2HD332JY	AA		R	3.3k 1/2W Carbon
	R882	VRD-RM2HD332JY	AA		R	3.3k 1/2W Carbon
	R889	VRD-RA2BE821JY	AA		R	820 1/8W Carbon
	R891	VRD-RA2BE102JY	AA		R	1k 1/8W Carbon
	R892	VRD-RA2BE391JY	AA		R	390 1/8W Carbon
	R894	VRD-RA2BE152JY	AA		R	1.5k 1/8W Carbon
	R895	VRD-RA2EE561JY	AA		R	560 1/4W Carbon
	P860	QPLGNA110WJZZ	AB		R	Plug, 5Pin (H)
	P880	QPLGNA136WJZZ	AB		R	Plug, 5Pin (K)
	SC851	QSOCV0016PEZZ	AF		R	Socket, 12Pin
	[5] MISCELLANEOUS PARTS					
⚠	ACC701	QACCBA024WJPZ	AS		R	AC Cord
		VSP1206PB50WA	AP		R	Speaker
		QCNW-A922WJN1	AE		R	Connecting Cord
		QCNW-A923WJN1	AE		R	Connecting Cord
		QCNW-B837WJZZ	AE		R	Connecting Cord
		QCNW-B839WJZZ	AF		R	Connecting Cord
	[6] SUPPLIED ACCESSORIES					
	X1	RRMCGA307WJSB	AN		R	Infrared Remote Control Unit
	X2	TiNS-B752WJZZ	AK		R	Operation Manual

[7] CABINET PARTS



NO.	PARTS CODE	PRICE RANK	NEW MARK	PART RANK	DESCRIPTION
[7] CABINET PARTS					
1	CCABAA882WEV0			R	Front Cabinet Ass'y
1-1	Not Available	-		-	Front Cabinet
1-2	JBTN-A189WJSA	AC		R	Power Button
1-3	MSPRC0005PEFW	AB		R	Power Button Spring
1-4	GCOVAA527WJSA	AC		R	R/C Cover
1-5	HBDGB3142CESA	AG		R	SHARP Badge
1-6	GDORFA054WJKA	AK		R	Door
1-7	MSPRPA031WJFW	AB		R	Door Spring
1-8	HiNDPA996WJSA	AD		R	Indication Plate
2	CCABBA452WEV0	BD		R	Rear Cabinet Ass'y
2-1	Not Available	-		-	Rear Cabinet

[8] PACKING PARTS



NO.	PARTS CODE	PRICE RANK	NEW MARK	PART RANK	DESCRIPTION
[8] PACKING PARTS					
					(NOT REPLACEMENT ITEM)
S1	SPAKCB894WJZZ	-		-	Packing Case
S2	SPAKXA308WJZZ	-		-	Buffer Material
S3	SSAKH0016PEZZ	-		-	Wrapping Sheet
S4	SSAKA0031PEZZ	-		-	Wrapping Sack
S5	TLABKA008WJZZ	-		-	Barcord Label

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